

GOVERNMENT OF INDIA

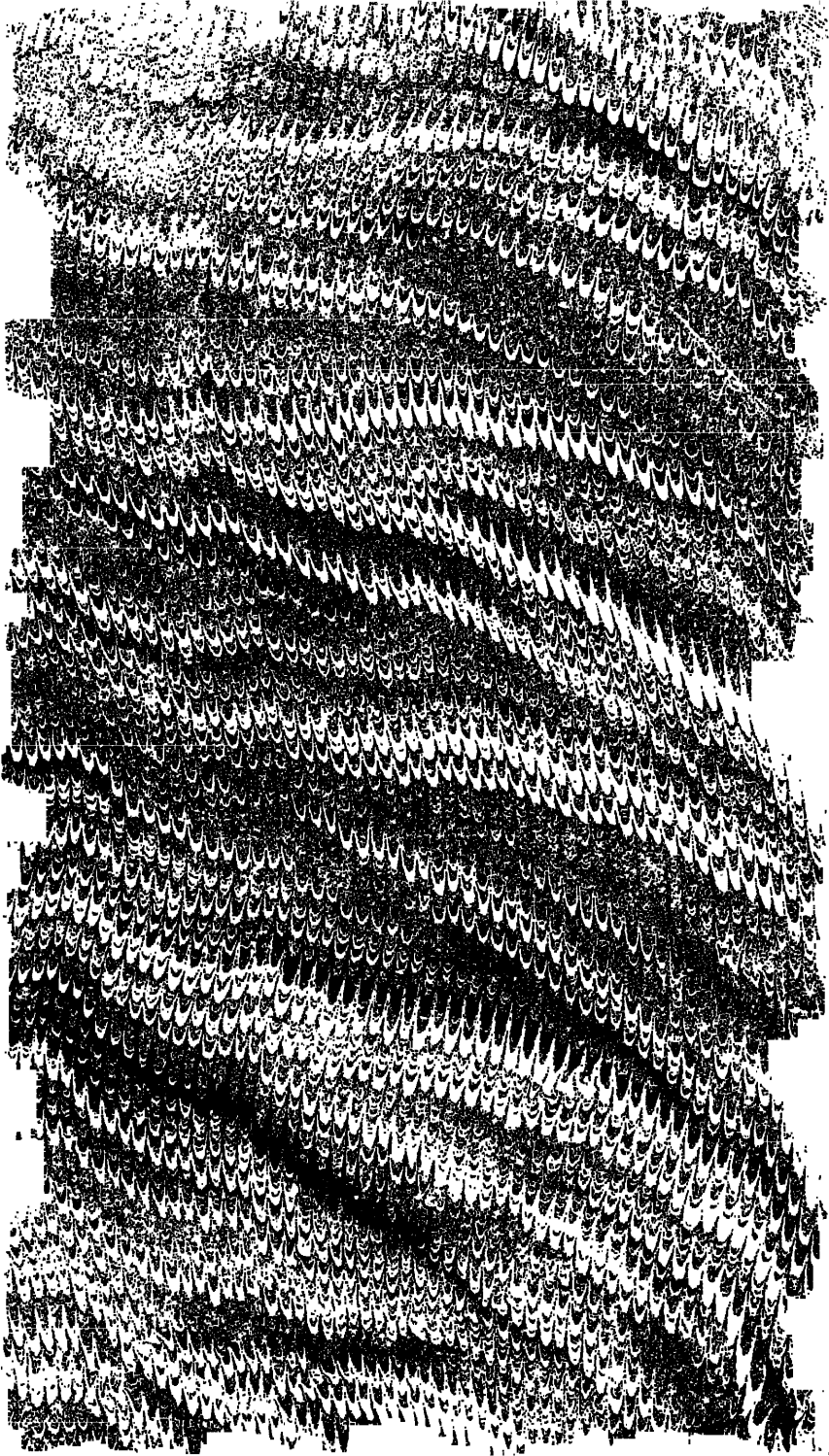
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PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

EDITED BY

THE HONORARY SECRETARIES.



24983

JANUARY to DECEMBER,

1869.

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P.A.S.B.

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* By a mistake of the printer, the numbers 177 and 178 are repeated in paging.

APPENDIX.

LIST OF MEMBERS
OF THE
ASIATIC SOCIETY OF BENGAL,
ON THE 31ST DECEMBER, 1868.

LIST OF ORDINARY MEMBERS.

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The \* distinguishes Non-Subscribing, and the † Non-Resident Members.

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N. B.—Gentlemen who may have changed their residence, since this list was drawn up, are requested to give intimation of such a change to the *Secretaries*, in order that the necessary alterations may be made in the subsequent edition.

Gentlemen who are proceeding to Europe, with the intention of not returning to India, are particularly requested to notify to the *Secretaries*, whether it be their desire to continue as members of the Society.

Date of Election.			
1847	June 2.	*Abbott, Major-Genl. J., Royal Artillery.	Europe
1860	Dec. 5.	Abdullatif, Khan Bahadúr, Maulvi.	Calcutta
1868	Sept. 2.	†Adam, R. M., Esq.	Agra
1865	June 7.	Agabeg, J., Esq.	Calcutta
1860	July 4.	†Ahmad Khan, Saied, Bahádur.	Allyghur
1860	April 4.	*Aitchison, J. E. T., Esq., M. D.	Europe
1859	Feb. 2.	*Alabaster, C., Esq.	China
1866	Jan. 17.	†Allen, Lieut.-Col. A. S.	Allahabad
1852	July 7.	*Allen, C., Esq., B. C. S.	Europe
1864	May 4.	†Alexander, N. S., Esq., C. S.	Mymensing
1867	Aug. 7.	†Amery, C. F., Esq.	Umritsur
1860	Oct. 3.	Amir Ali Khan, Múnshi.	Calcutta
1861	May 1.	Anderson, Dr. T., F. L. S.	Calcutta
1865	Jan. 11.	Anderson, Dr. J., F. L. S.	Calcutta
1843	Sept. 4.	*Anderson, Lieut.-Col. W., Bengal Artillery.	Europe
1866	July 4.	†Anderson, A., Esq.	Fyzabad
1864	Dec. 7.	*Anderson, W., Esq.	Europe
1860	Nov. 7.	†Anley, W. A. D., Esq., C. E.	Sarun
1861	Sept. 4.	*Asghur Ali Khan Bahádur, Nawab.	Europe
1861	July 3.	*Asphar, J. J. T. H., Esq.	Europe
1855	July 4.	Atkinson, W. S., Esq., M.A., F. L. S.	Calcutta
1826	Sept. 6.	Avdall, J., Esq.	Calcutta
1835	Oct. 7.	*Baker, Col. W. E., Bengal Engineers.	Europe
1865	Nov. 1.	Ball, V., Esq., Geol. Survey.	Calcutta.

Date of Election.		
1860 Nov. 7.	†Banerji, The Rev. K. M.	Burdwan
1864 May. 4.	*Barry, Dr. J. B.	Europe
1866 Jan. 17.	Barton, The Rev. J.	Calcutta
1862 Aug. 6.	†Basevi, Capt. J. P., Royal En- gineers.	Bangalore
1860 July 4.	Batten, G. H. M., Esq., B. C. S.	Calcutta
1888 Jan. 3.	*Batten, J. H., Esq., B. C. S.	Europe
1859 May 4.	Bayley, E. C., Esq., B. C. S.	Calcutta
1861 Feb. 6.	†Bayley, S. C., Esq., B. C. S.	Patna
1868 May 6.	*Baynes, J., Esq.	Europe
1849 June 6.	*Beadon, The Hon'ble Sir Cecil, B. C. S.	Europe
1864 Sept. 7.	*Beames, J., Esq., B. C. S.	Europe
1841 April 7.	Beaufort, F. L., Esq., B. C. S.	Calcutta
1861 Sept. 4.	*Beavan, Lieut. R. C., late 62nd B. N. I.	Europe
1847 Aug. 4.	*Beckwith, J., Esq.	Europe
1867 July 3.	†Belletty, N. A., Esq., Civil Assistant Surgeon.	Cherra-Punji
1830 Sept. 1.	*Benson, Lieut.-Col. R.	Europe
1862 Oct. 8.	†Bernard, C. E., Esq., B. C. S.	Nagpore
1862 June. 4.	†Bhau Daji, Dr.	Bombay
1868 Apl. 1.	Bholánátha Chandra, Bábu.	Calcutta
1864 Nov. 2.	Bhudeva Mukerjea, Bábu.	Chinsurah
1840 July 15.	*Birch, Major-General Sir R. J. H., K. C. B.	Europe
1846 Mar. 4.	*Blagrove, Major T. C., 26th Regt. B. N. I.	Europe
1859 Sept. 7.	Blane, Lieut.-Col. S. J.	Calcutta
1857 Mar. 4.	Blanford, H. F., Esq., A. R. S. M., F. G. S.	Calcutta
1859 Aug. 3.	Blanford, W. T., Esq., A. R. S. M., F. G. S., Geol. Survey.	Calcutta
1864 April 6.	Blochmann, H., Esq., M. A.	Calcutta
1857 Aug. 2.	*Bogle, Lieut.-Col. Sir A., Kt.	Europe
1859 Aug. 3.	Boláichanda Sing, Bábu.	Calcutta
1866 June 6.	Bourke, W. M., Esq.	Calcutta
1867 May 1.	†Bonavia, E., Esq., M. D., Asst. Surgeon.	Lucknow
1859 Oct. 12	†Bowring, L. B., Esq., B. C. S.	Mysore, Coorg
1868 Jan. 15.	†Boxwell, J., Esq., C. S.	Puri
1854 Nov. 1.	*Boycott, Dr. T., B. M. S.	Europe
1860 Mar. 2.	Brandis, Dr. D.	Calcutta
1860 Oct. 3.	*Brandreth, The Hon'ble J. E. L.	Europe
1862 Jan. 15.	*Briggs, Lieut.-Col. D.	Europe
1866 April 4.	*Broderick, H. C., Esq., M. D.	Europe
1847 June 2	*Brodie, Capt. T., 5th Regt. B. N. I.	Europe

Date of Election.		
1866 Jan. 17.	*Brown, Lieut.-Col. D.	Europe
1860 Nov. 7.	†Browne, Capt. Horace A.	Amherst
1866 June 6.	†Brownfield, C., Esq.	Kamarup.
1868 June 3.	†Buck, E. C., Esq., C. S.	Cawnpore
1866 June 6.	Buckle, Dr. H. B., C. B.	Calcutta
1856 Sept. 3.	Bashiruddin, Sultan Mohammad.	Serampore
1867 Sept. 4.	†Butler, Lieut. J.	Gowhati
1860 June 6.	†Campbell, C., Esq., C. E.	Jubbulpore
1859 Sept. 7.	*Campbell, Dr. A.	Europe
1863 June 3.	*Campbell, The Hon'ble G.	Europe
1860 Jan. 3.	†Carnac, H. Rivett, Esq., B. C. S.	Nagpore
1865 Nov. 1.	†Carnegy, P., Esq.	Fyzabad
1867 Dec. 4.	†Chambers, F. J., Esq.	Lucknow
1868 Augt. 5.	†Chandramohana Gosvami.	Gowhati
1867 Dec. 4.	†Chisholm, J. W., Esq.	Belaspore
1863 Aug. 5.	†Chandranatha Raya, Kumar.	Natore
1868 Feb. 5.	†Clark, Major E., Bengal Staff.	Baraitch
1863 April 1.	*Cleghorn, Dr. H.	Europe
1864 May 4.	†Cline, Esq., G. W., LL. D., F. G. S.	Nagpore
1861 Sept. 4.	†Cockburn, J. F., Esq., C. E.	Kurhurbari Colliery
1868 Nov. 4.	†Cole, Lieut. H. H., Royl. Engr.	Sealkote
1862 April 2.	†Colles, J. A. P., Esq., M. D.	Hazara
1851 Mar. 5.	*Colvin, J. H. B., Esq., B. C. S.	Europe
1868 Dec. 2.	Cooke, J. E., Esq.	Calcutta
1860 Dec. 5.	*Cooper, F. H., Esq., B. C. S.	Europe
1857 Mar. 4.	*Cowell, E. B., Esq., M. A.	Europe
1868 May 6.	†Coxhead, T. E., Esq., C. S.	Magura
1866 May. 2.	*Cox, W. H., Esq.	Europe
1866 Jan. 17.	Crawford, J. A., Esq., C. S.	Calcutta
1861 July 3.	*Crockett, Oliver R., Esq.	China
1867 Aug. 7.	†Curran, R. H., Esq., L. R. C. S., L. K. R. C. P.	Port Blair
1868 Sept. 2.	Cutsem, E. Ch. Van, Esq.	Calcutta
1866 Feb. 7.	†Daly, N., Esq.	Mayanoung, Burma
1862 April 2.	*Dalrymple, F. A. E., Esq., C. S.	Europe
1847 June 2.	†Dalton, Lieut.-Col. E. T., 9th Regt. B. N. I.	Chota Nag- pore
1861 Mar. 6.	*Davey, N. T., Esq., Revenue Surv.	Europe
1865 May 3.	†Davies, C., Esq.	Rotasghur
1861 Nov. 6.	†Davies, R. H., Esq., B. C. S.	Lucknow
1864 July 6.	Devendra Mallika, Babu.	Calcutta
1856 June 4.	*DeBourbel, Major R., Bengal Engrs.	Europe
1861 June 5.	*Denison, His Excellency Sir W., K. C. B.	Europe

Date of Election.			
1863 Feb. 4.	†Dev Narayana Singh, The Hon'ble Rájah.		Bénares
1861 Mar. 6.	*Deveraux, The Hon'ble H. B., B. C. S.		Europe
1862 May 7.	†Dhanapati Singha Dooghur, Ráyah Bahádur.		Azingunj
1853 Sept. 7.	Dickens, Lieut.-Col. C. H.		Calcutta
1860 Nov. 7.	Digamvara Mitra, Bábu.		Calcutta
1859 Sept. 7.	*Douglas, Col. C.		Europe
1864 Dec. 7.	*Dunlop, H. G., Esq.		Europe
1867 June 5.	†Duthoits, W., Esq., C. S.		Mirzapore
1861 May 1.	*Earle, Capt. E. L., Bengal Artillery.		Europe
1857 May 6.	*Eatwell, Dr. W. C. B.		Europe
1868 Oct. 7.	†Edowes, W., Esq., M. D.		Erinpur
1840 Oct. 7.	*Edgeworth, M. P., Esq., B. C. S.		Europe
1863 May 6.	†Edgar, J. W., Esq., B. C. S.		Cachar
1865 Feb. 1.	†Egerton, Ph., Esq., B. C. S.		Umritsar
1846 Jan. 7.	*Elliott, Sir Walter, late M. C. S.		Europe
1859 Nov. 2.	†Elliott, C. A., Esq., B. C. S.		Furruckabad
1856 Mar. 5.	*Ellis, Lieut.-Col. R. R. W., 23rd Regt. B. N. I.		Europe
1854 Nov. 1.	†Elphinstone, Capt. M. W., 4th Regt. B. N. I.		Lahore
1868 Sept. 2.	Ernsthausen, Baron O.		Calcutta
1861 Jan. 9.	*Erschine, The Hon'ble C. J., Bombay C. S.		Europe
1856 Aug. 6.	*Erschine, Major W. C. B.		Europe
1863 Oct. 7.	Ewart, Dr. J.		Calcutta
1862 Aug. 6.	*Eyre, Col. Vincent, C. B.		Europe
1865 June 7.	Fawcus, Dr. J.		Calcutta
1851 May 7.	Fayrer, Dr. J., C. S. I.		Calcutta
1863 Jan. 15.	†Fedden, Francis, Esq., Geol. Survey.		Bombay
1868 May 6.	*Field, C. D., Esq., C. S.		Europe
1859 Oct. 12.	*Fisher, A., Esq.		China
1860 Mar. 7.	*Fitzwilliam, The Hon'ble W. S.		Europe
1865 April 5.	†Fleming, Dr. J. M., 29th N. I.		Nimar,
1867 April 3.	*Ford, Lieut.-Col. B.		Europe
1861 Feb. 6.	†Forest, R., Esq., Civil Engineer.		Etawah
1868 June 3.	Francis, Dr. C. R.		Calcutta
1863 Dec. 2.	†Forsyth, Lieut. J., Bengl. Staff Corps.		Nimar,
1863 June 3.	†Forsyth, T. D., Esq., C. B.		Jullundir
1868 April. 1.	†Frederic of Schleswig Holstein, H. S. H. Prince.		Europe
1860 Mar. 7.	*Frere, His Excellency Sir H. Bartle, K. C. B., B. C. S.		Europe

Date of Election.		
1859 Oct. 12.	*Furlong, Major J. G. R.	Europe
1859 Dec. 7.	Futteh Ali, Maulvi.	Calcutta
1867 Sept. 4.	Fyfe, W., The Rev.	Calcutta
1849 Sept. 5.	†Fytche, Col. A., C. S. E., Chief Commiss. of Burmah.	Rangoon
1864 Aug. 11.	†Garrett, C. B., Esq., C. S.	Shahabad
1859 Aug. 3.	Gastrell, Col. J. E., 13th Regt. N. I., Supdt. Rev. Survey.	Calcutta
1867 Dec. 4.	†Gay, E., Esq.	Bombay
1867 Sept. 4.	Gauvain, Capt. V.	Calcutta
1868 Nov. 4.	†Geddes, J. C., Esq., C. S.	Pooree
1859 Sept. 7.	Geoghegan, J., Esq., B. C. S.	Calcutta
1865 June 7.	†Giles, A. H., Esq.	Krishnagur
1842 Sept. 2.	*Gladstone, W., Esq.	Europe
1867 May 1.	Glover, the Hon'ble F.	Calcutta
1861 Feb. 6.	†Godwin-Austen, H. H., Capt., Topograph. Survey.	Cherra Poonji
1859 Sept. 7.	*Goodeve, E., Esq., M. D.	Europe
1862 July 2.	Gordon, J. D., Esq., C. S.	Calcutta
1864 Dec. 5.	†Gurncharana Dása, Bábu.	Jamukandi
1862 Feb. 5.	†Gauradasa Basaka, Bábu.	Khuna
1863 Nov. 4.	†Gowan, Lieut.-Col. J. G.	Morar, Gwalior
1859 Dec. 7.	*Grant, Sir J. P., K. C. B.	Europe
1860 Jan. 4.	*Grant, T. R., Esq.	Europe
1867 Aug. 7.	Granville, W. L., Esq.	Calcutta
1867 June 5.	†Gregory, Lieut. J., Depy. Comr.	Samoogooting
1860 July 4.	Grey, The Hon'ble W., B. C. S., Lieut.- Governor of Bengal.	Calcutta
1866 June 6.	†Gribble, T. W., Esq., B. C. S.	Kooshtea
1861 Sept. 4.	†Griffin, L. H., Esq., B. C. S.	Umritsar,
1860 Nov. 7.	†Griffith, R. T. H., Esq.	Benares
1861 Feb. 6.	†Growse, F. S., Esq., B. C. S.	Mynpoorie
1862 Feb. 5.	*Guthrie, Col. C. S., Bengal Engrs.	Europe
1867 July 3.	†Hacket, C. A., Esq., Geol. Survey.	Agra
1847 June 2.	*Hall, F. E., Esq., M. A., D. C. L.	Europe
1866 Jan. 17.	†Hamilton, Major T. C.	Rangoon
1863 June 3.	*Hamilton, Col. G. W.	Europe
1855 Mar. 7.	†Hamilton, R., Esq.	Wurdah
1847 May 5.	*Hannington, Col. J. C., 63rd Regt. N. I.	Europe
1859 Oct. 12.	*Hardie, Dr. G. K.	Europe
1866 Nov. 1.	Harendra Krishna, Kumar.	Calcutta
1862 Oct. 8.	*Harington, The Hon'ble H. B.	Europe
1860 Oct. 3.	†Harris, E. B., Esq., C. E., District Engineer.	Burdwan

Date of Election.		
1861 Feb. 6.	†Harrison, A. S., Esq., B. A.	Bareilly
1859 Oct. 12.	†Haughton, Lieut.-Col. J. C., C. S. I.	Cooch Behar
1862 Aug. 6.	*Heeley, W. L., Esq., C. S.	Europe
1866 April 4.	Henry, N. A., Esq.	Calcutta
1859 Aug. 3.	†Henessey, J. B. N., Esq.	Dehra Dhoon
1853 July 6.	*Herschel, W. J., Esq., B. C. S.	Europe
1854 Mar. 1.	*Hichens, Lieut. W., Bengal Engrs.	Europe
1866 Jan. 17.	†Hicks, J. G., Esq.	Lahore
1868 Aug. 5.	†Hobart, R. T., Esq., C. S.	Busti
1860 May 2.	Hobhouse, The Hon'ble C. P., B. C. S.	Calcutta
1844 Mar. 7.	†Hopkinson, Lieut.-Col. H. H.	Assam
1863 July 1.	*Horne, C., Esq., C. S.	Europe
1860 Mar. 7.	Hovenden, Major J. J., Bengal Engrs.	Calcutta
1863 Jan. 15.	†Howell, M. S., Esq., C. S.	Dehra Dhoon
1867 Sept. 4.	†Hughes, A. J., Esq., C. E.	Dariabad
1867 Aug. 17.	†Hughes, T. H., Esq., A. R. S. M., F. G. S., Geol. Survey.	Hazarebagh
1867 Aug. 7.	*Hughes, Lieut. W. G.	Europe
1868 Nov. 4.	†Holroyd, Capt. W. R. M.	Punjab
1866 Feb. 7.	*Hoyle, G. W., Esq.	Europe
1867 May 1.	*Hyatt, Dr. B. N., Civil Surgeon.	Europe
1868 April 1.	Hyde, Col. H.	Calcutta
1866 Mar. 7.	†Irvine, W., Esq., C. S.	Mozuffernugger
1860 Jan. 4.	†Innes, Major J. J. M.	Punjab
1862 Oct. 8.	†Irwin, Valentine, Esq., C. S.	Tipperah
1853 Dec. 7.	†Isirvapasáda Singha, Bahádur, Rájah,	Benares
1864 Sept. 7.	Jackson, The Hon'ble E.	Calcutta
1841 Mar. 5.	*Jackson, W. B., Esq., B. C. S.	Europe
1861 Dec. 4.	*James, Major H. R., C. B.	Europe
1864 Sept. 7.	*Jardine, R., Esq., C. S.	Europe
1845 Dec. 3.	†Jerdon, Dr. T. C.	Assam
1866 Feb. 7.	†Johnson, W. H., Esq.	Sealkote
1847 June 2.	†Johnstone, J., Esq.	Europe
1862 Mar. 5.	†Johnstone, Capt. J. W. H., Assistant Commissioner.	Shahpore
1867 Dec. 4.	†Johnstone, Lieut. J., Special Asst. Keonghur.	Bhuddruck
1859 Sept. 7.	*Jones, R., Esq.	Europe
1865 June 7.	†Jayakissen, Dása Bahádur, Rájah.	Allyghur
1866 Mar. 7.	Kadarenatha Mukerji.	Bhowanipore
1858 Feb. 3.	Kaliprasanna Singha, Bábu.	Calcutta

Date of Election.		
1863 July 1.	*Kane, H. S., Esq., M. D.	Europe
1868 Feb. 5.	†Kavanagh, J., Esq.	Goond, Oudh
1850 April 3.	*Kay, The Rev. W., D. D.	Europe
1861 Dec. 15.	†Kempson, M., Esq., M. A.	Bareilly
1867 Dec. 4.	†King, G., Esq., M. D.	Saharunpore
1867 Mar. 6.	†King, Capt. H. W.	India
1862 Jan. 15.	†King, W., Jr., Esq., Geol. Survey.	Madras
1867 Mar. 6.	†Knox, G. E., Esq., C. S.	Meerut
1839 Mar. 6.	*Laidlay, J. W., Esq.	Europe
1861 Mar. 6.	*Laing, The Hon'ble S.	Europe
1863 Sept 2.	Lane, T. B., Esq., B. C. S.	Calcutta
1851 Dec. 3.	†Layard, Lieut.-Col. F. P.	Bhagulpore
1868 Sept. 2.	Lazarus, C., Esq.	Calcutta
1852 April 7.	*Lees, Major W. N., LL. D.	Europe
1868 Feb. 5.	†Lees, L. H., Esq., M. D.	Simla
1868 July 1.	†Leitner, Dr. G. W.	Lahore
1859 Dec. 7.	Leonard, H., Esq., C. E.	Calcutta
1865 June 7.	*Lewin, Capt. T. H.	Europe
1856 Feb. 6.	*Liebig, Dr. G. Von.	Europe
1860 Jan. 4.	Lindsay, E. J., Esq.	Calcutta
1862 Dec. 3.	*Lobb, S., Esq., M. A.	Europe
1864 Nov. 2.	Locke, H. H., Esq.	Calcutta
1866 May 2.	*Lovett, Lieutenant B.	Ispahan
1866 Jan. 17.	†Low, James, Esq., G. T. S.	Dehra Dhoon
1861 April 3.	†Lumsden, Lieut.-Col. P. S.	Simla
1854 Nov. 1.	*Lushington, F. A., Esq., B. C. S.	Europe
1868 Dec. 2.	†Macauliffe, M., Esq., C. S.	Multan
1866 June 6.	Macdonald, Major J., Staff Corps.	Calcutta
1848 April 5.	†Maclagan, Lieut.-Col. R., F.R.S.E.	Lahore
1866 Jan. 17.	†Macgregor, Lieut. C. M.	Simla
1865 Nov. 1.	Mackenzie, A., Esq., C. S.	Calcutta
1853 April 6.	Macrae, Dr. A. C.	Calcutta
1867 July 3.	Mackenzie, C. S., Esq., M. D.	Calcutta
1867 July 3.	Macnamara, Dr. C.	Calcutta
1863 Jan. 15.	Maine, The Hon'ble H. S.	Calcutta
1867 April 3.	†Mainwaring, Lieut.-Col. G.	Darjeeling
1860 Jan. 4.	*Mair, D. K., Esq., M. A.	Europe
1865 Mar. 1.	Malleson, Lieut.-Col. G. B.	Calcutta
1862 Sept. 3.	†Mallet, F. R., Esq., Geol. Survey.	Nowgong, Bundelcund
1860 July 4.	†Man, E. G., Esq.	Burdwan
1852 Nov. 3.	Manickjee Rustomjee, Esq.	Calcutta
1861 June 5.	†Mána Singha Bahádur, Maharájah.	Oudh
1867 Mar. 6.	Markby, The Hon'ble W.	Calcutta

Date of Election.			
1864 Aug. 11.	*Marks, The Rev. J. Ebenezer.	Europe	
1868 July 1.	†Marshall, Lieut. C. H. T.	Lahore	
1850 Jan. 2.	*Marshman, J. C., Esq.	Europe	
1863 Oct. 7.	†Martin, T., Esq., C. E.	Midnapore	
1863 Nov. 4.	*McClelland, Dr. J.	Europe	
1837 Oct. 4.	†McLeod, The Hon'ble Sir D. F., C. B., B. C. S.	Lahore	
1860 Mar. 7.	†Medlicott, H. B., Esq., F. G. S., Geol. Survey.	Daltongunj	
1861 Feb. 6.	Melville, Capt. A. B., late 67th N. I., Surv. Geol.'s Dept.	Calcutta	
1855 Nov. 7.	*Middleton, J., Esq.	Europe	
1867 June 5.	Milman, R., D. D., The Right Rev. Lord Bishop of Calcutta.	Calcutta	
1850 April 3.	*Mills, A. J. M., Esq., B. C. S.	Europe	
1867 April 3.	Mahendralala Saracara, Dr.	Calcutta	
1847 April 7.	†Money, D. J., Esq., B. C. S.	Bhagulpore	
1856 Feb. 6.	*Money, W. J., Esq.	Europe	
1867 Mar. 6.	†Montgomerie, Capt. T. G.	Dera Doon	
1865 July 5.	†Morland, Major J.	Delhi	
1854 Dec. 6.	†Morris, G. G., Esq., B. C. S.	Backergunge	
1868 Aug. 5.	†Muir, Capt. W. J. W.	Abu,	
1837 July 5.	*Muir, J., Esq.	Europe	
1854 Oct. 11.	†Muir, The Hon'ble Sir. W., B. C. S.	Allahabad	
1862 July 2.	*Napier of Magdala, Lord R., General, R., G. C. S. I. K. C. B.	Bombay	
1867 May 1.	Nelson, J. B., Esq.	Calcutta	
1860 Nov. 7.	*Newmarch, Lieut-Col. C. D.	Europe	
1865 Feb. 1.	*Newul Kishwar, Múnshi.	Lucknow	
1852 Sept. 1.	*Nicholls, Capt. W. T., 24th Regi- ment M. N. I.	Europe	
1863 Jan. 15.	Norman, The Hon'ble J. P.	Calcutta	
1867 June 5.	Obhayacharana Mallika, Bábu.	Calcutta	
1860 June 4.	*Oldham, Ch., Esq., Geol. Survey.	Europe	
1851 June 4.	Oldham, Th., Esq., LL. D., F. R. S. Geol. Survey.	Calcutta	
1867 Aug. 7.	†Oldham, A., Esq., C. E.	Koosthea	
1864 Dec. 7.	Onslow, D. B., Esq.	Calcutta	
1866 July 4.	*Ormsby, M. H., Esq., C. E., Geol. Survey.	Europe	
1837 June 7.	*O'Shaughnessy, Sir W. B.	Europe	
1847 Feb. 10.	*Ousely, Major W. R.	Europe	
1864 Mar. 2.	*Palmer, Dr. W. J.	Europe	
1868 Nov. 4.	†Pearson, C., Esq.	Punjab	
1862 May 7.	Partridge, S. B., Esq., M. D.	Calcutta	
1868 Aug. 5.	†Perkins H. E., Esq., C. S.	Hoshiarpore Punjab	

Date of Election.		
1867 Feb. 6.	Paul, J., Esq.	Calcutta
1860 Feb. 1.	*Pearse, Major G. G.	Europe
1867 Mar. 6.	Pearimahana Mukerji, M.A., Bábu.	Uttaraparah
1864 Mar. 2.	*Pellew, F. H., Esq., C. S.	Europe
1865 Sept. 6.	†Peppe, J. H., Esq.	Gya
1868 May 6.	Peterson, F. W., Esq.	Calcutta
1867 Nov. 6.	*Petit, Mons. Eugene.	Europe
1835 July 1.	*Phayre, Col., Sir A. P., K.C.S.I., C.B.	Europe
1864 Nov. 2.	Phear, The Hon'ble J. B.	Calcutta
1868 May 6.	Pirie, A., Esq.	Calcutta
1867 Sept. 4.	*Place, Mons. V. Consul-Gen. France.	Europe
1862 Oct. 8.	†Pulinvehari Sen, Bábu.	Berhampore
1868 April 1.	†Pramathanatha Raya, Kumar.	Digapati
1839 Mar. 6.	Pratt, Ven'ble Archdeacon J. H., M.A.	Calcutta
1860 Jan. 4.	Pryanath Seta, Bábu.	Calcutta
1825 Mar. 9.	*Prinsep, C. R., Esq.	Europe
1864 Feb. 3.	†Pullan, Lieut. A., G. T. Survey.	Dehra Dhoon
1853 April 6.	Radhanatha Sikdara, Bábu.	Calcutta
1849 Sept. 5.	Rajendra Dutt, Bábu.	Calcutta
1856 Mar. 5.	Rajendralála Mitra, Bábu.	Calcutta
1868 Jan. 15.	†Rakhaladasa Haldára, Bábu.	Purulea
1864 May 4.	Ramánath Bose, Bábu.	Calcutta
1837 Feb. 1.	Ramánath Takura, Bábu.	Calcutta
1866 Jan. 17.	†Rattray, A., Esq., Asst. Commr., Hill Tracts.	Chittagong
1860 Mar. 7.	†Reid, H. S., Esq.	Oudh
1868 June 3.	Reinhold, H., Esq.	Calcutta
1868 July 1.	†Renny, R. H., Esq.	Chittagong
1864 Dec. 7.	†Richardson, R. J., Esq., C. S.	Shahabad
1857 June 7.	*Riddell, Hon'ble H. B., B. C. S.	Europe
1868 April 1.	Robb, G., Esq.,	Calcutta
1868 July 1.	Roberts, The Rev. J.	Calcutta
1863 April 1.	†Robertson, C., Esq., C. S.	Nyne Tál
1865 Feb. 1.	Robinson, S. H., Esq.	Calcutta
1847 Dec. 1.	*Rogers, Capt. T. E.	Europe
1866 Dec. 5.	Ross, J. M., Esq.	Calcutta
1859 Sept. 7.	†Russell, A. E., Esq., B. C. S.	Burdwan
1865 June 7.	Sarádāprasād Mukerji, Bábu.	Baraset
1856 Aug. 6.	Satyasaran Ghosala, Rájah. S.	Bhookylas, Calcutta
1861 Dec. 4.	†Saunders, C. B., Esq., B. C.	Hyderabad
1864 June 1.	Saunders, J. O'B., Esq.	Calcutta
1854 Dec. 6.	†Saxton, Lt.-Col. G. H., F. G. S., 38th M. N. I.	Ootacamund
1854 May 2.	Schiller, F., Esq.	Calcutta
1860 Feb. 1.	Scott, Col. E. W. S.	Europe

Date of Election.		
1866 Jan. 17.	†Seaton, Capt. W. J.	Rangoon
1860 July 4.	†Shelverton, G., Esq.	Waltair
1866 Sept. 5.	†Sherer, Major J. F.	Kamrup
1867 April 3.	†Sheriful Omrah, The Hon'ble Navab Sir, Bahádur, K. C. S. I.	Madras
1845 Jan. 14.	*Sherwill, Lt.-Col. W. S., 66th Regiment B. N. I., F. G. S., F. R. G. S.	Europe
1868 Oct. 7.	Shircore, Dr. S. M.	Calcutta
1863 April 1.	†Showers, Lieut.-Col. C. L.	Agra
1866 June 6.	Sime, J., Esq. B. A.	Calcutta
1864 Sept. 7.	†Sladen, Capt. E. B.	Mandalay
1866 June 6.	†Smart, R. B., Esq., Rev. Sur.	Raipore, Cen- tral Province
1865 July 5.	†Smith, D. Boyes, Esq., M. D.	Calcutta
1868 April 1.	†Smith, McLaren W., Esq.	Berhampore
1868 July 1.	Smith, W., Esq., C. E.	Calcutta
1856 Feb. 6.	*Smith, Col. J. F.	Europe
1854 Sept. 6.	†Spankie, The Hon'ble R., B. C. S.	Agra
1864 Mar. 2.	†Spearman, Lieut. R.	Rangoon
1867 May 1.	*Steel, Lieut. E. I., R. A.	Europe
1843 Sept. 4.	†Stevens, W. H., Esq., C. E.	Darbhanga
1867 Dec. 4.	*Stephen, Major J. G., 8th N. I.	Europe
1863 Sept. 2.	Stewart, R. D., Esq.	Calcutta
1864 April 6.	†Stewart, J. L., Esq., M. D.	Lahore
1861 Sept. 4.	Stokes, Whitley, Esq.	Calcutta
1863 Nov. 4.	Stoliczka, F., Esq., Ph. D., F. G. S., Geol. Survey.	Calcutta
1868 Sept. 2.	Stoney, R. V., Esq., C. S.	Calcutta
1843 May 3.	Strachey, Col. R., F. R. S., F. L. S., F. G. S.	Calcutta
1859 Mar. 2.	†Stubbs, Major F. W., Beng. Artil- lery.	Unnitsar
1858 July 7.	*Sutherland, H. C., Esq., B. C. S.	Europe
1864 Aug. 11.	Swinhoe W., Esq.	Calcutta
1863 Sept. 3.	Symacharana Sircar, Bábu.	Calcutta
1866 Jan. 17.	Tagore, G. M., Esq.	Calcutta
1865 Sept. 6.	Tawney, C. H., Esq.	Calcutta
1865 April 5.	*Taylor, R., Esq.	Europe
1860 May 2.	Temple, Sir R., K. C. S. I., B. C. S.	Calcutta
1859 Mar. 2.	†Theobald, W., Jr., Esq., Geological Survey.	B. Burma
1860 June 6.	*Thompson, J. G., Esq.	Europe
1863 Mar. 4.	*Thompson, Major G. H., Bengal Staff Corps.	Europe

Date of Election.		
1863 June 4.	†Thornton, T. H., Esq.	Punjab, Lahore
1847 June 2.	*Thuillier, Col. H. L., F. R. G. S. Bengal Artillery.	Calcutta
1863 May 6.	†Thuillier, Lt. H. R.	Faridpore
1862 July 2.	*Thurlow, The Hon'ble T. J. H.	Europe [jab
1865 July 5.	†Tolbort, T. W. H., Esq., C. S.	Indiana, Pun-
1865 July 5.	Tonnerre, Dr. C. F.	Calcutta
1862 Feb. 5.	*Torrens, Col. H. D.	Europe
1861 June 5.	†Tremlett, J. D., Esq., C. S.	Simla
1863 Mar. 4.	*Trevelyan, The Right Hon'ble Sir C., K. C. B.	Europe
1841 Feb. 3.	*Trevor, The Hon'ble C. B., B. C. S.	Europe
1864 Mar. 2.	†Trever, Lt. E. A., Royal Eng. Marine Lines.	Bombay
1861 Sept. 4.	Tween, A., Esq., Geological Survey.	Calcutta
1863 May 6.	†Tyler, Dr. J.	Mynporie
1860 May 2.	†Vanrenen, Capt. A. D., late 71st B. N. I.	Bijnour
1864 Feb. 3.	†Verchere, A. M., Esq., M. D.	Jellunder
1864 April 6.	†Vijayarāma Gajapati Raj Munnia Sultan Bahādur, Maharajah Mirza.	Vizianagaram
1865 Nov. 1.	Waldie, D., Esq., F. R. C. S.	Calcutta
1861 May 1.	†Walker, Lt.-Col. J. T., Bomb. Engrs.	Mussoorie
1863 Dec. 2.	†Walker, A. G., Esq., C. S.	Onao, Oudh
1863 May 6.	*Wall, P. W., Esq., C. S.	Europe
1863 Oct. 7.	Waller, W. K., Esq., M. B.	Calcutta
1863 Dec. 2.	Walters, The Rev. M. D. C.	Calcutta
1862 Jan. 15.	†Ward, G. E., Esq., B. C. S.	Meerut
1852 July 7.	*Ward. J. J., Esq., B. C. S.	Europe
1859 July 6.	*Warrand, R. H. M., Esq., B. C. S.	Europe
1865 May 3.	*Waterhouse, Lieut. J., Royal Ar- tillery,	Europe
1854 July 5.	*Watson, J., Esq., B. C. S.	Europe
1847 Nov. 3.	*Wagh, Major-General Sir A. S., C. B., F. R. S., F. R. G. S.	Europe
1867 Feb. 6.	†Westmacott, E. V., Esq., B. A., C. S.	Dinagapore
1862 Oct. 8.	Wheeler, J. T., Esq.	Calcutta
1867 Aug. 7.	†Wilcox, F., Esq., Bengal Police.	Prulea,
1864 Mar. 2.	†Wilkinson, C. J., Esq.	Calcutta
1861 Sept. 4.	†Williams, Dr. C., H. M.'s 68th Regt.	Rangoon
1867 Jan. 16.	†Williamson, Lieut. W. J.	Garrow Hills
1867 Mar. 6.	Willson, W. G., Esq., B. A.	Calcutta
1859 Sept. 7.	†Wilson, W. L., Esq., Geol. Survey.	Sangor
1859 Aug. 3.	†Wilmot, C. W., Esq.	Rājmahāl
1865 Feb. 1.	†Wilmot, E., Esq.	Delhi
1866 Mar. 7.	†Wise, Dr. J. F. N.	Dacca

Date of Election.			
1867	July 3.	† Wood, Dr. J. J.	Ranchee
1851	May 7.	Woodrow. H, Esq., M. A.	Calcutta
1859	Mar. 2.	*Wortley, Major A. H. P.	Europe
1862	Aug. 6.	*Wylie, J. W. Esq., Bombay C. S.	Europe
1868	June 3.	Yatindramohana Thakura.	Calcutta
1858	April 4.	*Young, Lt.-Col C. B.	Europe
1856	July 2.	*Yule, Col. H., R. E.	Europe
			Andul

LIST OF HONORARY MEMBERS.

Date of Election			
1825	Mar. 9.	M. Garcin de Tassy, Membre del'Inst.	Paris
1826	" 1.	Sir John Phillippart.	London
1829	July 1.	Count De Noe.	Paris
1831	" 7.	Prof. C. Lassen.	Bonn
1834	Nov. 5.	Sir J. F. W. Herschel, F. R. S.	London
1834	" 5.	Col. W. H. Sykes, F. R. S.	London
1835	May 6.	Prof. Lea.	Philadelphia
1842	Feb. 4.	Dr. Ewald.	Göttingen
1842	" 4.	Right Hon'ble Sir Edward Ryan, Kt.	London
1843	Mar. 30.	Prof. Jules Mohl, Memb. de l' Institut.	Paris
1847	May 5.	His Highness Hekekyan Bey.	Egypt
1847	Sept. 1.	Col. W. Munro.	London
1847	Nov. 3.	His Highness the Nawab Nazim of Bengal.	Murshidabad
1848	Feb. 2.	Dr. J. D. Hooker, R. N., F. R. S.	Kew
1848	Mar. 8.	Prof. Henry.	Princeton, United States
1853	April 6.	Major-Gen. Sir H. C. Rawlinson, K. C. B., F. R. S., D. C. L.	London
1854	Aug. 2.	Col. Sir Proby T. Cautley, K. C. B., F. R. S.	London
1858	July 6.	B. H. Hodgson, Esq.	Europe
1859	Mar. 2.	The Hon'ble Sir J. W. Colville, Kt.	Europe
1860	" 7.	Prof. Max Müller.	Oxford
1860	Nov. 7.	Mons. Stanislas Julien.	Paris
1860	" 7.	Dr. Robert Wight.	London
1860	" 7.	Edward Thomas, Esq.	London
1860	" 7.	Dr. Aloys Sprenger.	Germany
1860	" 7.	Dr. Albrecht Weber.	Berlin
1865	Sept. 6.	Edward Blyth, Esq.	Europe
1868	Feb. 5.	Genl. A. Cunningham.	London
1868	" 5.	Prof. Bápu Déva Sástri.	Benares
1868	" 5.	Dr. T. Thomson, F. R. S., F. L. S., F. G. S.	London
1868	Sept. 2.	A. Grote, Esq., C. S.	London

LIST OF CORRESPONDING MEMBERS.

Date of Election.			
1844	Oct. 2.	Macgowan, Dr. J.	Europe
1856	June 4.	Kramer, Herr. A. von	Alexandria
1856	" 4.	Porter, The Rev. J.	Damascus
1856	" 4.	Schlagintweit, Herr H. von	Bavaria
1856	" 4.	Smith, Dr. E.	Beyrout
1856	" 4.	Tailor, J., Esq.	Bussorah
1856	" 4.	Wilson, Dr.	Bombay
1857	Mar. 4.	Neitner, J., Esq.	Ceylon
1858	Mar. 3.	Schlagintweit, Herr H. R. von	Giesen
1859	Nov. 2.	Frederick, Dr. H.	Batavia
1859	May 4.	Bleeker, Dr. H.	Batavia
1860	Feb. 1.	Baker, The Rev. H.	E. Malabar
1860	" 1.	Swinhoe, R., Esq., H. M.'s Consul.	Amoy
1860	April 4.	Haug, Dr. M.	Poonah
1861	July 3.	Gosche, Dr. R.	Berlin
1862	Mar. 5.	Murray, A., Esq.	London
1863	Jan. 15.	Goldstücker, Dr. T.	London
1863	July 4.	Barnes, R. H., Esq.	Ceylon
1866	May 7.	Schlagintweit, Prof. E. von	Prussia
1866	" 7.	Sherring, The Rev. M. A.	Europe
1868	Feb. 5.	Foucaux, M. F. H.	Paris
1868	" 5.	Holmboe, Prof.	Christiania

LIST OF ASSOCIATE MEMBERS.

1835	Oct. 7.	Stephenson, J., Esq.	Europe
1838	Feb. 7.	Keramut Ali, Saied.	Hooghly
1843	Dec. 6.	Long, The Rev. J.	Calcutta
1865	May 3.	Dall, The Rev. C. H. A.	Calcutta

ELECTIONS IN 1868.

ORDINARY MEMBERS.

J. Boxwell, Esq., C. S.	Pooree
Bábu Rakhaldas Haldára.	Maunbhum
Major E. Clark.	Baraich, Oudh
J. Kavanagh, Esq.	Fyzahad, Oudh
L. H. Lees, Esq., M. D.	Simla
G. Robb, Esq.	Calcutta
H. S. H. Prince Frederick of Schleswig Holstein.	Lahore
W. M. Smith, Esq.	Berhampore

Cumara Pramathanatha Raya.
 Bábu Bholanatha Chandra.
 Col. H. Hyde.
 J. Baynes, Esq.
 T. E. Coxhead, Esq., C. S.
 C. D. Field, Esq., C. S.
 F. W. Peterson, Esq.
 A. Pirie, Esq.
 E. C. Buck, Esq., C. S.
 Bábu Yatindramohana Thakura.
 H. Reinhold, Esq.
 Dr. C. R. Francis.
 Dr. G. W. Leitner.
 Lieut. C. H. T. Marshall.
 The Rev. J. Roberts.
 R. H. Renny, Esq.

W. Smith, Esq., C. E.
 Pandita Chandramohana Gosvami,
 R. T. Hobart, Esq., C. S.
 Capt. W. J. W. Muir.
 H. E. Perkins, Esq., C. S.
 R. M. Adam, Esq.
 E. Ch. Van-Cutsem, Esq.
 Baron O. Ernsthansen.
 C. Lazarus, Esq.
 R. V. Stoney, Esq., C. S.
 W. Eddowes, Esq., M. D.
 Dr. S. M. Shircore.
 Lieut. H. H. Cole, R. E.
 Capt. W. R. M. Holroyd.
 C. Pearson, Esq.
 J. C. Geddes, Esq., C. S.
 M. Macauliffe, Esq., C. S.
 J. E. Cooke, Esq.

Degapati.
 Calcutta
 Calcutta
 Calcutta
 Magora,
 Calcutta
 Calcutta
 Calcutta
 Cawnpore
 Calcutta
 Calcutta
 Calcutta
 Lahore
 Lahore
 Calcutta
 Chittagong Hill-
 Tracts
 Calcutta
 Gowhati
 Bustee
 Abu, Rajputna
 Hoshigarpore
 Agra
 Calcutta
 Calcutta
 Calcutta
 Calcutta
 Erinpur
 Calcutta
 Sealkote
 Punjab
 Punjab
 Chittagong
 Multan
 Calcutta

HONORARY MEMBERS.

Genl. A. Cunningham.
 Dr. T. Thomson.
 A. Grote, Esq.
 Prof. Bápu Déva Sástri.

London
 London
 London
 Benares

CORRESPONDING MEMBERS.

M. F. H. Foucaux.
 Prof. Holmboe.

Paris
 Christiania

LOSS OF MEMBERS DURING 1868.

ORDINARY MEMBERS.

By retirement.

Major F. B. Norman.	Calcutta
H. Beverley, Esq.	Calcutta
C. V. Bradford, Esq.	Hooghly
Bábu Bhola Natha Mallicka.	Calcutta
E. T. Trevor, Esq.	Calcutta
J. Christian, Esq.	Monghyr
E. T. Atkinson, Esq.	Jaunpore
The Hon'ble, L. S. Jackson.	Calcutta
C. U. Aitchison, Esq., C. S.	Umritsur
J. Harris, Esq.	Calcutta
R. A. Sterndale, Esq.	Calcutta
J. H. A. Branson, Esq.	Calcutta
Capt. F. S. Staunton.	Calcutta
A. P. Macdonald, Esq.	Monghyr
J. M. Scott, Esq.	Calcutta
Lieut.-Col. B. Reid.	Chamba
Col. J. C. Brooke,	Calcutta
G. A. D. Anley, Esq.	Calcutta
A. W. Croft, Esq.	Calcutta
Dr. T. Duka.	Simla

By death.

H. D. Robertson, Esq.	Sahárunpore
Maulvi Maula Bakas, Khan Bahádur.	Patna
The Hon'ble A. A. Roberts.	Hyderabad
The Hon'ble Prasannakumara Thakura, C. S. I.	Calcutta
C. F. Thornhill, Esq.	Allahabad
S. Fenn, Esq.	Calcutta
F. Hill, Esq.	Calcutta

Struck off.

The Hon'ble R. S. Ellis.	Madras
Máharajah Satishchandra Bahádur.	Krishnagur
W. H. Scott, Esq.	Dehra
Múnshi Sudderuddín,	Pandoah

[APPENDIX.]

ABSTRACT STATEMENT
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR
THE YEAR 1868.

STATEMENT

Abstract of the Cash Account

RECEIPTS.		1868.	1867.
ADMISSION FEES.			
Received from the New Members, Rs.	1,280 0 0	1,280 0 0	1,504 0 0
CONTRIBUTIONS.			
Received from the Members, ...	9,771 12 0	9,771 12 0	8,373 13 6
JOURNAL.			
Sale proceeds and Subscription to the			
Journal of the Asiatic Society, ...	1,303 5 0		
Ditto ditto 27 copies of Total Eclipse, ...	13 8 0		
Refund of Postage Stamps, ...	28 10 0		
Ditto of Packing Charges, ...	1 8 0		
Ditto of Freight, ...	5 4 0		
Commission received from the Baptist			
Mission Press on the bills of the			
Journal, &c., ...	72 15 3		
		1,425 2 3	2,820 5 9
LIBRARY.			
Sale proceeds of Books, ...	412 3 6		
Refund of Freight, ...	15 4 0		
Ditto of Postage, ...	2 4 0		
Saleproceeds of two large Book Shelves, ...	50 0 0		
		479 11 6	437 10 0
SECRETARY'S OFFICE.			
Refund of Freight, ...	7 8 0		
Ditto of Postage, ...	7 10 0		
		15 2 0	17 5 9
GENERAL ESTABLISHMENT.			
Savings, ...	0 15 3		
Fine, ...	0 12 0		
		1 11 3	1 4 6
VESTED FUND.			
Received interest on the Government			
Securities from the Bank of Bengal, ...	110 0 0		
		110 0 0	110 0 0
COIN FUND.			
Proceeds of sale of duplicates, ...	36 0 0		
		36 0 0	8 8 0
MUSEUM.			
Refund of the amount paid for the			
furnitures, ...	280 0 0		
		280 0 0	
INEFFICIENT.			
Refund of the amount from Dr. Jerdon,			
paid by the Assistant Curator Baboo			
for Sundries Charges, ...	48 8 0		
		48 8 0	
Carried over, Rs.		13,447 7 0	

No. 1.

of the Asiatic Society for 1868.

DISBURSEMENTS.				1868.	1867.
CONTRIBUTIONS.					
Paid Commission on collecting sub- scription bills, ...	Rs.	50	5	3	50 5 3
JOURNAL.					
Freight, ...	...	134	14	6	
Printing charges, ...	...	6,446	11	3	
Lithographing and Engraving charges, &c., ...	...	603	0	0	
Purchase of Postage Stamps, ...	...	204	1	0	
Commission on Sale of Books, ...	...	39	8	3	
Purchase of Journal, ...	...	307	0	0	
Ditto of Blank Books, ...	...	9	4	0	
Ditto of Stationery, ...	...	3	0	0	
Refund of packing charges, ...	...	2	11	0	
Colouring of the Maps, ...	...	44	9	0	
Petty charges, ...	...	12	13	9	
					7,807 8 9 4,349 7 6
LIBRARY.					
Salary of the Librarian, ...	...	840	0	0	
Establishment, ...	...	120	0	0	
Book-binding, ...	...	206	1	0	
Commission on sale of Books, ...	...	48	11	0	
Purchase of Books, ...	...	1,468	6	0	
Ditto of Custom Receipt Stamps, ...	...	2	0	0	
Freight, ...	...	5	0	0	
Salary of a Punkhaman, ...	...	27	14	9	
Printing charges, ...	...	20	0	0	
Purchase of Stationery, ...	...	4	0	0	
Proportional Exchange on bill of £150, ...	...	47	9	8	
Landing charges, ...	...	17	6	9	
Petty charges, ...	...	23	7	9	
					2,830 8 11 3,207 5 6
SECRETARY'S OFFICE.					
General Establishment, ...	...	294	0	0	
Secretary's Office Establishment, ...	...	1,344	0	0	
Purchase of Postage Stamps, ...	...	116	1	0	
Ditto of Stationery, ...	...	51	13	0	
Ditto of Paper files, ...	...	14	8	0	
Ditto of Directory and Army List, ...	...	25	0	0	
Printing charges, ...	...	122	8	0	
Binding Gazettes, ...	...	31	8	0	
Bearing Postage, ...	...	6	2	6	
Subscription to the Medical Gazette, ...	...	12	0	0	
Petty charges, ...	...	20	5	6	
					2,037 14 0 1,633 6 7
Carried over, Rs. 12,726 4 11					

RECEIPTS. 1868. 1867.
Brought over, Rs. 13,447 15 0

O. P. FUND.

Received in part of £63-5-8 advance on bill of Messrs. Williams, and Norgate on account of White Yajurveda,	200 0 0		
Ditto by Transfer from Messrs. Williams and Norgate, Sale proceeds of Bibliotheca Indica through them,	276 13 6		
		489 12 8	165 10 11

MESSRS. WILLIAMS AND NORGATE.

Received by Sale proceeds of their Books,	2 8 0		
Ditto from Sayyid Karamut Ali, as deposit on their account being the price of a number of the Kamil,	3 0 0		
Ditto by Books supplied to the Asiatic Society,	1,370 12 0		
Ditto of Postage for sending various letters,	1 10 0		
Ditto of Freight for ditto ditto Journal,	21 1 6		
Ditto by Transfer to the O. P. Fund for the White Yajurveda,	632 13 6		
Ditto by ditto to Babu Prosono Coomar Tagore, for distributing Packets of Books in London,	12 8 0		
Ditto by ditto to Babu Rajendralala Mitra, for,	6 0 0		
Ditto on £150,	82 6 8		
		2,132 11 8	299 12 0

GOVERNMENT NORTH WESTERN PROVINCES.

Refund of Freight paid for sending Journal and Proceedings,	10 14 0		
		10 14 0	14 8 0

INDIAN MUSEUM.

Refund of the amount advanced,	14 8 0		
		14 8 0	

BOFF STIFTUNG FUND.

Received on deposit,	213 0 0		
		213 0 0	

BAPTIST MISSION PRESS.

Received from Moulvie Abdoollateef, for charges of,	3 0 0		
		3 0 0	52 8 0

MAJOR J. F. TENNANTS.

Refund of the amount paid on the 11th July, 1868,	6 0 0		
		6 0 0	

MR. A. GROTE, PORTRAIT FUND.

Received on deposit,	967 0 0		
		967 0 0	

DR. J. F. N. WISE.

Refund of the amount paid on the 31st October, 1866,	0 12 0		
		0 12 0	

Carried over, Rs. 17,285 9 4

DISBURSEMENTS. 1868. 1867.

Brought over, Rs. 12,726 4 11

VESTED FUND.

Commission to the Bank of Bengal for
drawing interest on the Government
Securities, ...

0 4 4

0 4 4

0 4 4

COIN FUND.

Purchase of Coin, ... 331 0 0
Ditto of a Blank Book, ... 7 8 0
Banghy expenses for returned Coins, ... 0 15 0
Petty charges, ... 0 8 0

339 15 0 417 14 6

BUILDING.

Assessment, ... 432 0 0
Ditto for lighting, ... 96 0 0
Police Rate, ... 144 0 0
Repairing, ... 112 9 0
Paid to the Justices of the Peace for
constructing 3 Gully pits, &c. for
drainage, ... 351 15 3

1,136 8 3 653 8 0

MISCELLANEOUS.

Salary of the Mally, ... 57 0 0
Printing charges, ... 33 0 0
Meeting charges, ... 162 0 0
Advertising charges, ... 212 9 0
Purchase of 2 Lamps, ... 63 0 0
Ditto of Receipt Stamps, ... 2 0 0
Ditto of Stationery, ... 1 0 0
Petty charges, ... 46 11 0

577 4 0 297 0 3

O. P. FUND.

Paid to the Asiatic Society on account
of Loan, ... 183 5 6
Ditto ditto Baptist Mission Press, for
printing charges, ... 5 0 0
Ditto Messrs. Wil-
liams and Nor-
gate, for pur-
chase of White
Yajurveda, ... £50 12 6 506 4 0

Ditto ditto ad-
vertising Bibli-
otheca Indica, ... £0 18 0 9 0 0

Do. do. Freight
and Packing for
distributing Bi-
bliotheca Indi-
ca, ... £11 15 2 117 9 6

£63 5 8 632 13 6

Do. presentational Exchange
of ... 34 13 0

667 10 6

856 0 0

45 13 9

Carried over, Rs. 15,636 4 6

RECEIPTS.		1868.	1867.
Brought over, Rs.		17,285	9 4
V. BALL, Esq.			
Refund of the amount paid on the			
12th September, 1868, ..	... 1 0 0	1 0 0	
K. ROGHUNATH ROW.			
Refund of the amount paid on the			
31st August, 1868, ...	... 1 0 0	1 0 0	
W. IRVINE, Esq.			
Refund of the amount paid,	... 11 4 6	11 4 6	
D. WALDIE, Esq.			
Refund of the amount paid on the 6th			
July, 1868, ...	... 9 2 0	9 2 0	
E. T. ATKINSON, Esq.			
Refund of the amount, ...	... 1 0 0	1 0 0	
DR. BHAI DAJI.			
Received on deposit, ...	... 12 8 0	12 8 0	
LT. J. BUTLER.			
Refund of the amount paid on the 31st			
October and 21st December, 1867, ...	... 4 7 0	4 7 0	7 8 0
JAMES BEAMES, Esq.			
Refund of, ...	... 7 8 0	7 8 0	
BABU RAJENDRALALA MITRA.			
Refund of the paid on the 16th July,			
1867, ...	... 11 0 0	11 0 0	
DR. F. STOLICZKA.			
Refund of the amount paid on the			
12th September, 1868, ...	... 1 8 0	1 8 0	
E. B. COWELL, Esq.			
Refund of the amount paid,	... 106 4 0	106 4 0	
CAPT. M. W. CAW.			
Received on deposit, ...	... 1 11 0	1 11 0	
COL. R. STRACHEY.			
Refund of the amount paid,	... 10 0 0	10 0 0	
J. D. TREMLETT, Esq.			
Refund of Postage Stamps,	... 0 2 0	0 2 0	
DR. J. MUIR.			
Received in deposit, ...	... 1,000 0 0	1,000 0 0	
Carried over, Rs.		18,463	15 10

DISBURSEMENTS. 1868. 1867.

Brought over, Rs. 15,636 4 6

MESSRS. WILLIAMS AND NORGATE.

Paid Messrs. Gillanders, Arbutnot and Co., as per draft, dated 8th July, 1868, £150, at 1-10 $\frac{1}{4}$ per rupee, ...	1,582 6 8		
Ditto by transfer to sale of Journal, ...	78 12 0		
Ditto ditto of Library, ...	17 15 6		
Ditto ditto of Bibliotheca Indica, (O. P. F.) ...	276 13 6		
	<u>1,955 15 8</u>	448 12 0	

GOVERNMENT NORTH-WESTERN PROVINCES.

Paid Freight for sending Journal and Proceedings, ...	16 5 0	16 5 0	10 14 0
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INDIAN MUSEUM.

Paid Freight for sending a parcel of Books to Messrs. Williams and Norgate, London, ...	1 12 0	1 12 0	12 12 0
---	--------	--------	---------

BOPP STIFTUNG FUND.

Paid printing charges, ...	4 14 6		
Ditto for sending Circular, ...	4 12 6		
Refunded the amount to Babu R. Mitra, ...	203 5 0	213 0 0	

BAPTIST MISSION PRESS.

Paid to the Press, for printing charges on account of the Hon'ble Campbell, ...	47 8 0	47 8 0	5 0 0
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MAJOR J. F. TENNANTS.

Paid Printing charges on 75 copies of Total Eclipse, ...	6 0 0	6 0 0	
--	-------	-------	--

MR. A. GROTE, PORTRAIT FUND.

Paid Postage Stamps, ...	15 14 0		
Ditto 200 Creamlaid Envelope, ...	1 12 0		
Ditto 16 Receipt Stamps, ...	1 0 0		
Ditto printing charges 150 copies of Circulars, ...	12 0 0		
Refunded the amount to Babu R. Mitra, ...	936 6 0	967 0 0	

ZOOLOGICAL GARDEN.

Paid printing charges, ...	16 0 0	16 0 0	1 14 0
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MUSEUM CATALOGUE.

Catalogue binding, ...	18 0 0	18 0 0	754 2 9
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V. BALL, ESQ.

Paid to the Baptist Mission Press for printing charges, ...	1 0 0	1 0 0	
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Carried over, Rs. 18,878 13 2

RECEIPTS.

Brought over, Rs. 18,463 15 10

BABU KEDARNATH BANERJEE.

Received from him on account of the

Library Books Sale,	<u>7 0 0</u>	7 0 0
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W. T. BLANFORD, Esq.

Refund of the amount paid,	...	<u>6 0 0</u>	6 0 0
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Carried over, Rs 18,476 15 10

DISBURSEMENTS. 1868. 1867.

Brought over, Rs. 18,878 13 2

K. ROGHUNATH ROW.					
Paid packing charges, ...	...	1	0	0	1 0 0
D. WALDIE, Esq.					
Paid to the Baptist Mission Press for printing charges, ...	...	9	2	0	9 2 0
JAMES BEAMS, Esq.					
Paid Freight for sending Books to Monghyr, ...	...	1	1	0	1 1 0
BÁBU RAJENDRALÁLA MITRA.					3 2 0
Paid to the Baptist Mission Press, for printing charges, ...	...	11	0	0	
Do. to Messrs. Williams & Norgate,...	...	6	0	0	17 0 0
DR. F. STOLICZKA.					
Paid to the Baptist Mission Press, for printing charges, ...	...	1	8	0	1 8 0
THE HON'BLE G. CAMPBELL.					
Paid to the Baptist Mission Press, for printing charges, ...	...	5	0	0	5 0 0
W. L. WILSON, Esq.					
Paid Postage for sending Library Books, ...	...	0	7	0	0 7 0
MAJOR C. H. STRUTT.					
Paid Postage Stamps for sending Journal, ...	...	2	6	0	2 6 0
DR. G. KING.					
Paid Postage Stamps for sending Extra Copy and Chart, ...	...	0	6	0	0 6 0
R. B. SMART, Esq.					
Paid Postage Stamps for sending Chart, ...	...	0	2	0	0 2 0
LT. J. FORSYTH.					
Paid discount for Cashing 2 Bombay Currency Notes, ...	...	0	6	0	0 6 0
DR. J. M. FLEMING.					
Paid Postage Stamps for sending Chart, ...	...	0	3	0	0 3 0
DR. G. W. CLINE.					
Paid Postage Stamps for sending a Copy of Rules of the Asiatic Society, ...	...	0	3	0	0 3 0
G. SHELVERTON, Esq.					
Paid discount for Cashing his draft, ...	...	0	5	9	0 5 9

Carried over, Rs. 18,917 14 11

RECEIPTS.	1868.	1867.
Brought over, Rs. 18,476 15 10		

Carried over, Rs. 18,476 15 10

DISBURSEMENTS.		1868.	1867.
Brought over, Rs. 18,917 14 11			
H. R. CARNAC, Esq.			
Paid discount for Cashing his draft,...	0 6 0	0 6 0	
MAJOR-GENERAL A. CUNNINGHAM.			
Paid to the Baptist Mission Press, for printing charges, ...	2 0 0	2 0 0	
SIR WILLIAM JONES' MONUMENT.			
Refunded the amount to Messrs. Llewelyn and Co., for repairing the Monument, ...	680 0 0	680 0 0	
DR. T. ANDERSON.			
Paid to the Baptist Mission Press, for printing charges, ...	5 8 0	5 8 0	
C. HORNE, Esq.			
Paid to the Baptist Mission Press, for printing charges, ...	7 2 0	0 7 0	0 7 0
THE REV. M. A. SHERRING.			
Paid to the Baptist Mission Press, for printing charges, ...	2 10 0	2 10 0	
H. BLOCHMANN, Esq.			
Paid to the Baptist Mission Press, for printing charges, ..	3 12 0		
Ditto Freight for sending Books to Messrs. Williams & Norgate, London,	2 0 0	5 12 0	
THE REV. W. G. COWIE.			
Paid to the Baptist Mission Press, for printing charges, ...	6 6 0	6 6 0	
DR. A. M. VERCHERE.			
Paid Postage Stamps for sending Library Books, ...	1 2 0	1 2 0	
M. MACANLIFFE, Esq.			
Paid Postage for sending Researches, Vol. 15, ...	0 3 0	0 3 0	
BABU PROSONO COOMAR TAGORE.			
Paid Messrs. Williams & Norgate, for distributing packets of Books in London, ...	12 8 0	12 8 0	
MOULVIE ABDULLATEEF.			
Paid to the Baptist Mission Press, for printing charges, ...	1 8 0	1 8 0	
W. T. BLANFORD, Esq.			
Paid to the Baptist Mission Press, for printing charges, ...	6 0 0	6 0 0	
Carried over, Rs. 19,648 15 11			

RECEIPTS. 1868. 1867.
 Brought over, Rs. 18,476 15 10

BALANCE OF 1867.				
In the Bank of Bengal, ...	...	3,487	12	1
Cash in hand, ...	...	38	8	4
		<hr/>		
		3,526	4	5

Rs. 22,003 4 3

Examined,
 Sd. PRATAPACHUNDRA GHOSHA,
Asst. Secy.
Asiatic Society, Bengal.

Errors and Omissions excepted,
 Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society, Bengal.

Examined and found correct
 Sd. R. D. STEWART, }
 „ F. W. PETERSON. } *Auditors.*

DISBURSEMENTS. 1868. 1867.
 Brought forward, Rs. 19,648 15 11

BALANCE.

In the Bank of Bengal, viz.,
 Account-current Dr. J.

Muir, ...	1,000	0	0			
„ Asiatic Society, ...	1,261	10	9			
				2,261	10	9
Cash in hand, ...				92	9	7
					2,354	4 4
					Rs. 22,003	4 3

Examined,
 Sd. PRATÁPCHUNDRA GHOSHA,
Asst. Secy.
Asiatic Society, Bengal.

Errors and Omissions excepted,
 Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society, Bengal.

Examined and found correct,
 Sd. R. D. STEWART, }
 „ F. W. PETERSON. } *Auditors.*

STATEMENT

Abstract of the Cash Account

RECEIPTS.		1868.	1867.
ORIENTAL PUBLICATIONS.			
Received by Sale of Bibliotheca,	Rs. 2,268 12 0		
Ditto by Subscription to ditto, ...	102 2 0		
Ditto by Sale of White Yajurveda, ...	456 14 3		
Ditto by Sale of Samaveda, ...	24 8 0		
Ditto by Sale of Athurveda, ...	32 8 0		
Refund of Postage Stamps, ...	47 7 0		
Ditto of Packing charges, ...	6 2 0		
Ditto of Freight, ...	0 2 0		
		2,938 7 3	2,558 12 9
GOVERNMENT ALLOWANCE.			
Received from the General Treasury			
at 500 Rs. per month, ...	6,000 0 0	6,000 0 0	6,000 0 0
VESTED FUND.			
Received Interest on the Government			
Securities from the Bank of Bengal,	346 4 0		
Ditto by Sale of Government Security, ...	3,500 0 0		
Ditto Premium by Sale of ditto, ...	529 6 0		
Ditto Interest by Sale of ditto, ...	34 12 1		
		4,410 6 1	442 8 0
CUSTODY OF ORIENTAL WORKS.			
Saving of Salary, ...	14 7 6	14 7 6	
ASIATIC SOCIETY OF BENGAL.			
Received on Loan, ...	183 5 6		
Ditto by transfer on account of White Yajurveda, &c., purchased through Messrs. Williams and Norgate, £50 12 6,	506 4 0		
Do. do. Advertising Bibliotheca Indica, £0 18 0,	9 0 0		
Do. do. freight and packing charges, £11 15 2,	117 9 6		
Do. do. on a ...	34 13 0		
	667 10 6	851 0 0	45 13 9
LUTCHMEE SUNDRA RAMANAH.			
Received on deposit, ...	39 8 0	39 8 0	
P. SWAMINATHA AGUR.			
Received on deposit, ...	14 0 0		
Ditto on account of Bibliotheca Indica, ...	3 8 0	17 8 0	
Carried over, Rs. 14,271 4 0			

No. 2.

Oriental Fund for 1868.

DISBURSEMENTS.

1868.

1867.

ORIENTAL PUBLICATIONS.

Paid Commission on the Sale of					
Books,	Rs.	292	0	3	
Frieght, ... ..	...	218	5	6	
Packing Charges, ... ..	...	44	1	0	
Purchase of Postage Stamps, ... ..	...	61	15	0	
Ditto of White Yajurveda, &c., ... ..	...	506	4	0	
Advertising Charges, ... ..	...	9	0	0	
Proportional exchange on a draft £150	...	34	13	6	
Purchase of Stationery, ... ..	...	9	11	0	
Petty Charges, ... ..	...	3	9	6	
					1,179 11 9 674 2 3

VESTED FUND.

Paid Commission to the Bank of Bengal for drawing Interest on the Government Securities,	0	13	10		
Ditto Commission and Brokerage on Sale of the Government Security,	13	2	0		
Ditto a receipt Stamp,	0	1	0		
				14	0 10 1 1 8

CUSTODY OF ORIENTAL WORKS.

Paid Salary of the Librarian,	360	0	0		
Establishment,	654	0	0		
Book-binding,	197	0	0		
Fee paid to the Bank of Bengal for Stamping Cheques,	3	2	0		
Purchase of Stationery,	48	14	6		
Ditto of blank Books,	14	8	0		
Printing charges,	69	6	0		
...	47	7	0		
Purchase of two Book Cases and 1 Table,	66	1	6		
Subscription to the Satya Brata Samaj,	16	0	0		
Petty charges,	41	10	0		
				1,518	5 0 988 5 5

LIBRARY.

Purchase of MSS. Books, &c.,	551	10	0		
Train hire for ditto,	4	6	3		
Postage for ditto,	4	8	0		
Binding Sanskrit MSS. purchased from Benares,	42	14	9		
				603	7 0 136 12 0

COPYING MSS.

Copying charges,	37	3	0		
				37	3 0 33 12 0

Carried over, Rs. 3,352 11 7

RECEIPTS.				1868.	1867.
Brought over, Rs. 14,271				4 0	
DAMOODARA JETTA.					
Received by Sale of White Yajurveda,	48	0	0		
Ditto on account of Bibliotheca Indica,	240	0	0		
				288 0 0	511 0 0
PUNDITA RADHA KISSEN.					
Received on deposit,	...	0	8 0	0 8 0	
K. ROGHUNATHA ROW.					
Received on account of Bibliotheca					
Indica, ...	87	12	6		
Refund of Freight, ...	2	14	0	90 10 6	49 8 0
BABU KARTIC CHANDRA CHOWDURY.					
Received on deposit, ...	0	10	0	0 10 0	
A. NARAINI ROW.					
Refund of Postage, ...	0	14	0	0 14 0	25 7 0
BABU KEDARNATH BANERJEE.					
Received on account of Bibliotheca					
Indica, ...	93	8	0	93 8 0	
BABU BROJO BHUSUN DOSS.					
Received on account of Bibliotheca					
Indica, ...	20	0	0	20 0 0	50 0 0
DOWHILRAM DOOLIE CHAND & Co.					
Received on deposit, ...	5	0	6	5 0 6	
V. B SOOBIAH.					
Received on account of Bibliotheca					
Indica, ...	10	0	0	10 0 0	1 9 6
SADA SUKH LALA.					
Received on deposit, ...	42	8	0	42 8 0	
REV. K. M. BANERJEE.					
Received on account of Bibliotheca					
Indica, ...	13	6	0	13 6 0	
THE HON'BLE D. F. McLEOD.					
Received on deposit, ...	0	7	0	0 7 0	
J. YAVIER, ESQ.					
Received on deposit, ...	1	8	0		
Ditto on account of Bibliotheca					
Indica, ...	59	4	0	60 12 0	
PUNDITA DAMOORA BALLABH.					
Received on account of Bibliotheca					
Indica, ...	2	4	0	2 4 0	4 14 0
Carried over, Rs. 14,899				12 10	

DISBURSEMENTS.

1868.

1867.

Brought over, Rs. 3,352 11 7

ASIATIC SOCIETY OF BENGAL.

Paid on account of Loan, ...	12 15 2		
Ditto by transfer by Sale of the Bibliotheca Indica, through Messrs. Williams and Norgate, £27 13 8, ...	276 13 6		
Ditto in part payment of £63 15 8, for White Yajurveda, ...	200 0 0		
	<hr/>	489 12 8	165 10 11

LUTCHMEE SUNDRA RAMANAH.

Paid Postage Stamps for sending Bibliotheca Indica, ...	4 15 6		
	<hr/>	4 15 6	

P. SWAMANATHA JYER.

Paid Postage Stamps for sending Bibliotheca Indica, ...	1 13 0		
	<hr/>	1 13 0	

DAMOODARA JETTA.

Paid freight for sending Books, ...	17 8 6		
Ditto packing charges for ditto, ...	4 0 9		
Ditto by transfer to the Bibliotheca Indica, ...	442 8 6		
	<hr/>	464 1 9	329 14 9

K. ROGHUNATHA ROW.

Paid freight for sending Books, ...	2 14 0		
Ditto by transfer to the Bibliotheca Indica, ...	81 12 3		
	<hr/>	84 10 3	

A. NARAIN ROW.

Paid Bearing Postage on his letter, ...	0 1 0		
Ditto Postage for sending Bibliotheca Indica, ...	0 14 0		
Ditto by transfer to the Bibliotheca Indica, ...	4 11 0		
	<hr/>	5 10 0	20 12 0

DOWHITRAM DOOLIE CHAND & Co.

Refunded the amount to the School Book Society, ...	5 1 6		
	<hr/>	5 1 6	

SADA SUKH LALA.

Paid freight and packing charges for ...	4 5 0		
Ditto by transfer to the Bibliotheca Indica, ...	38 3 0		
	<hr/>	42 8 0	

REV. K. M. BANERJEE.

Paid by transfer to the Bibliotheca Indica, ...	13 6 0		
	<hr/>	13 6 0	

J. W. MCCRINDLE, Esq.

Paid freight, &c., for sending Bibliotheca Indica, ...	2 13 0		
	<hr/>	2 13 0	

Carried over, Rs. 4,467 7 3

RECEIPTS.	1868.	1867.
Brought over, Rs. 14,899 12 10		

Carried over, Rs. 14,899 12 10

DISBURSEMENTS. 1868. 1867.

Brought over, Rs. 4,467 7 3

POEMS OF CHAND.

Paid Postage Expenses on a Bangly Parcel of the MSS.,	...	13 8 0.	13 8 0
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PALI GRAMMAR.

Paid Rev. F. Mason, for Editing charges,	912 0 0	
Ditto Premium for getting a draft in his favor,	10 7 0	
Ditto Printing paper for the Pali Grammar including charges for sending ditto, ...	...	225 15 3	
Ditto Printing &c. for 500 Copies of Covers of ditto, No. 123 and freight for ditto, ...	...	25 8 0	
Ditto Freight, ...	...	4 12 0	
Ditto Petty charges, ...	...	2 5 0	
		<u>1,180 15 3</u>	

AIN í AKBARI.

Paid Salary to Moonshee, ...	...	360 0 0	
Ditto Printing charges, ...	...	1,636 12 0	
Ditto 6 Reams of 26 lbs. Printing Royal Paper, ...	...	78 0 0	
		<u>2,074 12 0</u>	426 0 0

BADSHAH NAMAH.

Editing and Printing charges, ...	...	503 8 0	
		<u>503 8 0</u>	3,796 0 0

TARIKHI BADAONI.

Editing and Printing charges, ...	...	2,113 0 0	
		<u>2,113 0 0.</u>	

TATTIRYA ARANYAKA UPANISHAD.

Paid Freight and Bangly Expenses for sending MSS., ...	...	4 9 0	
Ditto Editing charges, ...	...	144 0 0	
Ditto Printing charges, ...	...	672 0 0	
		<u>820 9 0</u>	368 0 0

ALMAGIR NAMAH.

Paid Editing and Printing charges, ...	...	200 0 0	
		<u>200 0 0</u>	584 0 0

SANKARA VIJAYA.

Correcting 121 pages of ditto, ...	...	121 0 0	
Printing charges, ...	...	237 2 0	
		<u>358 2 0</u>	80 0 0

SANHITA OF THE BLACK YAJURVEDA.

Printing charges, ...	...	364 14 0	
		<u>364 14 0</u>	

SRAUTA SUTRA OF ASWALAYAND.

Printing charges, ...	...	1,111 4 0	
		<u>1,111 4 0</u>	

MIMANSA DARSANA.

Editing charges, ...	...	96 0 0	
Printing charges, ...	...	235 2 0	
		<u>331 2 0</u>	333 0 0

Carried over, Rs. 18,539 1 6

RECEIPTS.		1868.	1867.
Brought over, Rs. 14,899 12 10			
J. W. McCrindle, Esq.			
Received on account of Bibliotheca			
Indica,	... ..	33 5 6	33 5 6
PALI GRAMMAR.			
Refund of the amount from the			
Rev. F. Mason for paper used by him,	126 13 10		
Ditto ditto for Pali Type,	54 1 6		
		180 15 4	
		15,114 1 8	
BALANCE OF 1867.			
In the Bank of Bengal,	... ..	312 15 6	

Total, Rs. ... 15,427 1 2

Examined,
Sd. PRATÁPACHUNDRA GHOSHÁ.
Asst. Secy.
Asiatic Society, Bengal.

Errors and Omissions Excepted,
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society, Bengal.

Examined and found correct,
Sd. R. D. STEWART, } *Auditors.*
„ F. W. PETERSON. }

DISBURSEMENTS.		1868.	1867.
Brought over, Rs.		13,539	1 6
ASWALAYAS GRIHYA SUTRA.			
Printing charges,	...	672 0 0	672 0 0
			100 0 0
TAITTIREYA BRAHMANA.			
Printing charges,	...	224 0 0	224 0 0
			368 0 0
MUNTAHAB ALLUBAB, OF KHAFEKHAN.			
Editing and Printing charges,	...	876 0 0	876 0 0
			15,311 1 6
BALANCE.			
In the Bank of Bengal,	...	115 15 8	115 15 8
			15,427 1 2
Total Rs.		...	15,427 1 2

Examined,
Sd. PRATÁPACHUNDRA GHOSHA.
Asst. Secy.
Asiatic Society, Bengal.

Errors and Omissions Excepted,
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society, Bengal.

Examined and found correct,
Sd. R. D. STEWART,
,, F. W. PETERSON, } *Auditors.*

STATEMENT No. 3.

Shewing the Assets and Liabilities of the Asiatic Society of the Close of 1868.

ASSETS.		1868.	1867.	LIABILITIES.		1868.	1867.
CASH.				Salary, Establishment and Contingent charge for December, 1868, ...		260	0 0 230 0 0
he Bank of Bengal, viz. :-				Baptist Mission Press Printing Journal and Proceedings, ...		3,781	5 3 4,974 12 6
ccount Dr. J. Muir, 1,000 0 0				Dr. J. Muir in deposit, ...		1,000	0 0 0 0 0
ccount Asiatic Society, ... 1,261 10 9		2,261 10 9	3,487 12 1	Messrs. Williams and Norgate, ...		642	0 0 800 0 0
sh in hand, ...		92 9 7	38 8 4				
overnment Securities, ...		2,000 0 0	2,000 0 0				
		4,354 0 0	5526 4 5				
OUTSTANDING.							
Contributions, ...		6,369 5 8	7,143 13 2				
Admission fees, ...		416 0 0	448 0 0				
Library Sale of Books, ...		310 12 0	403 8 0				
Journal Subscription, ...		903 9 0	883 1 0				
Ditto Sale ditto, ...		274 12 9	193 4 6				
O. P. Fund, ...		246 6 2	0 0 0				
		8,523 13 7	9,071 10 8				
						5,083 5 3	6,004 12 6

STATEMENT No. 4.

Shewing the Assets and Liabilities of the Oriental Publication Fund of 1868.

ASSETS.		LIABILITIES.	
	1868.		1867.
In the Bank of Bengal,	Rs. 115 15 8	Establishment and Contingent charges, 1868,	Rs. 90 0 0
Government Securities,	5,000 0 0	Baptist Mission Press and printing charges, ..	2,000 9 0
Bibliotheca Sale and Subscription,	672 6 9	Kubeeroodeen, editing and printing charges,	876 0 0
Government allowance for December, 1868,	500 0 0	Asiatic Society of Bengal,	246 6 2
Ditto due for Ain i Akbari,	5,000 0 0		
		Total, Rs.	3,212 6 0
			3,410 13 3

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Examined,	Errors and Omissions Excepted,
Sd. PRATAPACHUNDRA GHOSH,	Sd. BUDDYNATH BYSACK,
Asst. Secy.	Cash Keeper.
Asiatic Society, Bengal.	Asiatic Society, Bengal.
	Examined and found correct,
	Sd. R. D. STEWART,
	" F. W. PETERSON,
	Auditors.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,

FOR JANUARY, 1869.

The Annual General Meeting of the Asiatic Society of Bengal was held on Wednesday the 20th January, 1869.

T. Oldham, Esq., LL. D., President, in the Chair.

The Secretary read the Council's report for the past year.

ANNUAL REPORT.

The Council of the Asiatic Society, in submitting their annual report for 1868, have the satisfaction of congratulating the Society on its continuing prosperity, both in respect to the increase of members, and the improved status of its finances.

The heavy debt, brought to the notice of the Society in the last Annual Report, has been materially decreased, while the actual expenditure during the past year exceeds the estimate, laid before the Society in January 1868, by a very small sum. The Council confidently hope that by adhering to the course of rigid economy, followed out during the past year, they will, in a short time, be able to free the Society from its debt, and recommend a more liberal outlay for its library and publications, than they felt justified in sanctioning in the past year.

During the year 1868, there has been an accession of 42 new members, while the Society lost 7 Ordinary members by death, two more than in the preceding year, and 20 by resignation, the same as in 1867. Thus the actual loss amounts to 27 members. Besides, the names of four members have been struck off the list. At the close of 1868, the total number of ordinary members was 427, of which 294 were paying, and 133 absent, members. At the close of 1867, the total number of members was 416, of which 307 were

paying, and 109 absent members. Thus while the total number of members during 1868 rose from 416 to 427, there has been a temporary decrease of paying members from 307 to 294.

The following is a tabular statement showing the fluctuation in the number of paying and absent members during the last ten years.

	<i>Paying.</i>	<i>Absent.</i>	<i>Total.</i>
1859	135	45	180
1860	195	47	242
1861	225	55	280
1862	229	82	311
1863	276	79	355
1864	288	92	380
1865	267	109	376
1866	293	94	387
1867	307	109	416
1868	294	133	427

Two members of the Society were in the past year elected Honorary Members, A. Grote Esq., the late President of the Society, and Dr. T. Thompson. To the list of Honorary Members, the names also of General A. Cunningham and Professor Bápudeva Sastri were added. Mr. F. H. Foucaux of Paris, and Professor Holmboe of Christiania were elected corresponding members of the Society. Of the ordinary members of the Society, the Council regret the decease of the Honorable Prosonno Coomar Thakur, C. S. I., Calcutta; the Honorable A. A. Roberts, C. B., C. S. I., Resident Hyderabad; Maulvi Maulá Bakhsh, Khán Bahádur, Patna; Mr. H. D. Robertson, C. S., Saharunpore; Mr. C. B. Thornhill, C. S., Allahabad; Mr. S. Fenn, Attorney, Calcutta; and Mr. F. Hill, Professor of Civil Engineering, Calcutta.

MUSEUM.

At a special general meeting held in November last, formal sanction was given to the transfer, to the Trustees of the Indian Museum, of all the Society's collections, except those of books, coins, pictures and busts.

FINANCE.

The active measures taken in 1867 to diminish the expenditure of the Society were continued during last year. In the beginning

of 1868, the Budget was very carefully discussed. A plan of expenditure for the whole year was laid out, and care was taken, not to exceed the amount sanctioned in the Budget.

INCOME.

	<i>Estimate.</i>	<i>Actual.</i>	<i>Deficit.</i>	<i>Excess.</i>
Admission fees,.....	1,200	1,280	0	80
Subscriptions,	8,400	9,771	0	1,371
Journal,	1,000	1,425	0	425
Library,	350	479	0	129
Secretary's Office,.....	25	15	10	0
Coin Fund,	25	36	0	11
	<hr/>	<hr/>	<hr/>	<hr/>
Total,.....	11,000	13,006	10	2,016

EXPENDITURE.

	<i>Estimate.</i>	<i>Actual.</i>	<i>Saving.</i>	<i>Excess.</i>
Journal,.....	5,000	4,248	752	0
Library,.....	2,150	2,830	0	680
Secretary's Office,.....	2,000	2,037	0	37
Building,	1,000	1,136	0	136
Coin Fund,	300	339	0	39
Miscellaneous,	350	577	0	227
Museum Catalogues,.....	200	18	182	0
	<hr/>	<hr/>	<hr/>	<hr/>
Total,.....	11,000	11,185	934	1,119

The above statement shews that the actual expenditure for last year has exceeded the estimate by a sum of Rs. 185. This excess, however, was sanctioned by the Council at the recommendation of the Finance Committee, to whom all questions of extra expenditure were referred. The actual income of the year on the other hand exceeded the estimate by Rs. 2006. This sum, together with a portion of the balance of 1867, was appropriated to the payment of Printer's bills, which at the close of 1867 amounted to the enormous sum of Rs. 7000. The cost of printing the Journal and Proceedings for last year amounted to Rs. 3800, which, added to the liabilities of 1867, makes up a total of Rs. 10,800. The sum of Rs. 7,800 has been paid out of the above total, leaving a balance of Rs. 3,000. To pre-

vent the accumulation of debts, the Finance Committee have arranged to pay off within one month after presentation, all bills submitted for payment.

The following statement is an abstract of accounts of last year.

Admission Fees, ...Rs.	1,280	0	0	Contributions,.....Rs.	50	5	3
Contributions,	9,771	12	0	Journal,	7,807	8	9
Journal,	1,425	2	3	Library,	2,830	8	11
Secretary's Office,	15	2	0	Secretary's Office,.....	2,037	14	0
Library,	479	11	6	Vested Fund,	0	4	4
Vested Fund,	110	0	0	Coin Fund,	339	15	0
General Establishment,	1	11	3	Building,	1,136	8	3
Coin Fund,	36	0	0	Miscellaneous,	577	4	0
Museum,	280	0	0	Oriental Publ. Fund,	856	0	0
Inefficient,	48	8	0	Messrs. W. & Norgate,	1,955	15	8
Oriental Publ. Fund,	489	12	0	Sir W. J.'s Monument,	680	0	0
Messrs. W. & Norgate,	2,132	11	8	Sundries,	196	11	9
Dr. J. Muir,	1,000	0	0				
Sundries,	226	8	6				
	17,296	15	10				
Balance of 1867—				Balance—			
In the Bank of Bengal,	3,487	12	0	In the Bank of Bengal,	2,261	10	9
Cash in hand,.....	38	8	4	Cash in hand,	92	9	7
	3,526	4	5		2,354	4	4
Total,.....	20,823	4	3	Total,.....	20,823	4	3

The Council have much satisfaction to report that they have succeeded in reducing the heavy outstandings of last year, but by the loss of several members, outstandings to the amount of 400 Rs. are to be written off.

The following will shew the financial condition of the Society.

Cash assets. Outstanding. Gross assets. Liabilities.

1868 4,354 8,523 12,877 5,683

The Council would urge on the members the imperative necessity of regularly paying their quarterly contributions, in order that the Society may meet its expenses for the coming year without being obliged to curtail its usefulness by any further retrenchments. The state of the library warrants a greater outlay than the present financial condition of the Society allows.

The following is their Budget for the coming year. The income has been estimated from the average income of the last few years. Any excess of income over the estimate will be, as in 1868, devoted to the payment of old debts.

INCOME.

	Rs.	As.	P.
Admission fees,	1,200	0	0
Contributions,	9,200	0	0
Journal,.....	1,200	0	0
Library,...	350	0	0
Coin Fund,	50	0	0
Total, Rs. ...	12,000	0	0

EXPENDITURE.

	Rs.	As.	P.
Journal,.....	5,000	0	0
Library,	3,200	0	0
Secretary's Office,.....	2,000	0	0
Building,	800	0	0
Coin Fund	300	0	0
Miscellaneous,	700	0	0
Total, Rs. ...	12,000	0	0

OFFICERS.

On the departure of Mr. A. Grote for England, Dr. J. Fayerer was elected Vice-President. Mr. H. F. Blanford, in the beginning of May, resigned the general secretaryship. Bábu Rajendralala Mitra for some time, carried on the correspondence of the Society in addition to his own duties as Philological Secretary. In July last, the Council appointed Mr. H. Blochmann, General Secretary of the Society. A change also took place in the Natural History department, Dr. J. A. P. Colles being obliged, towards the end of May last, to leave Calcutta, Dr. F. Stoliczka took charge of his office. Mr. H. F. Blanford officiated as Treasurer during the temporary absence of Col. J. E. Gastrell.

Bábu Protapa Chundra Ghose, Assistant Secretary and Librarian, and Bábu Money Lál Bysak, Assistant Librarian, have been active and assiduous in the performance of their duties, and the Council have pleasure in recording their satisfaction with their services.

The number of the Society's publications having largely increased, the Council, during last year, thought it necessary to appoint a store-keeper, who together with the Librarian has drawn up a correct list of the Society's stock.

JOURNAL.

The volume for 1868 is a little more bulky than that of 1867.

Of the first, or philological, part, 138 pages have been published in two numbers; and of the second, or the Natural History part, 218 pages and five plates, together with an index in four numbers.

Of the Proceedings, 302 pages have been published in twelve monthly numbers, together with the usual index. The Proceedings have also been illustrated by five plates.

The Journal and Proceedings thus extend over 658 pages, or 55 pages more than in 1867. In addition to this, there have been issued 216 pages of meteorological observations, and an Extra Natural History number of 88 pages, containing Mr. Theobald's Catalogue of Reptiles in the Museum, the printing of which had been commenced three years ago.

LIBRARY.

During last year, there were added to the Library 610 volumes, periodicals, and pamphlets.

COIN CABINET.

During the past year a batch of coins was purchased from a Bukhara dealer, containing many Phœnician and Muhammadan coins. The Committee also purchased a tetradrachma of Antimachus Theos, in good preservation, and another of Demetrius. The former was described in July's Proceedings.

BIBLIOTHECA INDICA.

The Persian Series of the Bibliotheca Indica has been carried on with great activity. Eighteen fasciculi of different historical works have been issued, as also the first fasciculus of an English translation of the *Áin i Akbarí* by Mr. Blochmann. The *Pádisháhnámah* by Abul Hamíd of Lahor, and the *'Álamgírnámah* by Muhammad Kázim have been completed by Maulvís Abdurrahím, Khádim Husain, and Abdul Hai, of the Calcutta Madrasah. The completing portion of Badáoní's *Muntakhab*, edited by Maulvî Aghá Ahmad 'Alí is shortly expected to be issued. Of the *Áin i Akbarí*, three fasciculi have

been edited by Mr. Blochmann. Of a new work, Kháfí Khán's *Muntakhabul lubáb*, Maulví Kabíruddín Ahmad has edited four fasciculi.

The Council have much pleasure in stating that their editions of the Muhammadan historians of India, according to the plan of the late Sir Henry Elliott, are thus rapidly approaching completion.

The progress of the Sanscrit Series of the Bibliotheca Indica was greatly interfered with by the death of several editors and the loss of MSS. Altogether six fasciculi have been issued. Measures have been taken to push on the publications during the ensuing year.

The following is a list of the several works published during the past year.

Sanscrit.

The Grihya Sutra of Aswaláyana, with the commentary of Gárgya Náráyána, edited by Anandachandra Vedántavagisa, Nos. 132, 143. Fasc. II and III.

Sankara Vijaya, or the life and polemics of Sankara Acharyya, by Ananda Giri, edited by Jayanáráyana Tarkapanchánana, Nos. 137, 138, Fasc. II and III.

The Mimansa Darsana with the commentary of Sávara Swámin, edited by Pandita Mohesachandra Nyáyaratna. No. 142, Fasc. IV.

The Taittiriya Aranyaka of the Black Yajur Veda with the commentary of Sáyanachárya, edited by Rájendralála Mitra, No. 144, Fasc. VI.

Persian.

The Muntakhab ut Tawárikh by Abdulqadir ibn i Mulúk Sháh i Badáoni. Edited by Maulví Aghá Ahmad' Alí, Vol. I. Nos. 131, 135, 136, 139, 140, Fasc. I to V.

Do. do. Vol. III. Nos. 145, 146, 152, 153, Fasc. I to IV.

The Pádisháhnámah by Abdul Hamíd Láhaurí, edited by Maulvís Kabíruddín Ahmad and Abdurrahím No. 133, Fasc. XVIII.

The A'lamgírnámah by Muhammad Kázim ibn i Muhammad Amin Munshí, edited by Maulvís Khádím Husain and Abdul Hai, No. 134, Fasc. XII.

The A'in i Akbarí by Abul Fazl i Mubárik i 'Allámí, edited by H. Blochmann, M. A., Nos. 120, 122, 141, Fasc. IV, V and VI.

Do. do. *English translation* by H. Blochmann, M. A. No. 149, Fasc. I.

The *Muntakhab al lubáb* by Kháfí Khán. Edited by Maulví Kabíruddín Ahmad. Nos. 147, 148, 150, 151, Vol. I. Fasc. I to IV.

It was proposed by Col. R. Strachey, and seconded by Col. Thuillier that the report be adopted.

The proposition was put to the vote, and carried unanimously.

The meeting then proceeded to elect the Council and Officers for the ensuing year.

It was proposed by the President and agreed to, that Mr. D. Waldie and Mr. W. T. Blanford be appointed Scrutineers of the ballot.

The President said that he had, with much regret, to announce to the meeting that their excellent Secretary Bábu Rajendralala Mitra was prevented from being present by serious illness. This illness was the result of his exposure in the malarious jungles of Orissa, during his recent antiquarian tour in that province; he (the President) had communicated with Bábu Rajendralala, with reference to the arrangements for conducting the philological portion of the Society's labours during the coming year, and the other claims which were certain to be made on his time. And Bábu Rajendralala in his reply states, that 'he would not, under any circumstances, be able to resume work for six weeks to come, that the first claim on his time would be the preparation of a report of his late unfortunate tour, for which he had materials which would fill some 400 pages 4to., and then there was also the preparation of the proposed Catalogue of Sanskrit works, required for Government which should be got up in a manner worthy the name of our good old Society.' He adds; "to do these works properly, I shall have to devote all my leisure hours to them, and under the circumstances, I must resign the Secretaryship."

It was with great regret that the President announced this resignation, and he felt sure that the Society would join with him in a very hearty expression of the obligations they were under to Bábu Rajendralala Mitra for his constant devotion to their service, and for the able and independent way in which he had ever conducted the duties of the several offices he had held under the Society. He felt that

it would be unnecessary to put this more formally but that it would be seconded by the meeting at large.—Passed with acclamation.

It was also proposed by Col. Thuillier and seconded by Dr. Stoliczka, that Mr. F. Peterson and Mr. R. D. Stewart be requested to audit the accounts of the Society.

The proposition was put to the vote and carried unanimously.

During the time that the ballot was proceeded with, the President brought to the notice of the meeting the new code of rules, as proposed by the Council. The President said—that it would be in the recollection of the members, that, for years past, there had been very frequent changes made in the Bye-laws of the Society. These alterations were generally brought up individually, and thus were frequently considered without a full investigation of their bearing on other parts of the rules. The whole series had thus become, in several respects, contradictory and inconsistent. Many years since, a Committee of the Council had been appointed to revise these rules generally and submit a new set. This Committee had met several times, and had made some little progress with the task entrusted to them, when the departure from Calcutta of some of its members led to a cessation of its labours; and nothing further was then done. The attention of the Council had been more forcibly directed to the necessity for a general revision of the laws during the last year, by the fact that the supply of the rules, of which each new member is by the laws to receive a copy, had become exhausted, and it was necessary to reprint. A Committee therefore had been nominated, consisting in part of members of the Council of the Society, in part of other members not in the Council, to whom the whole question was referred. This Committee met frequently, and very fully, and in great detail, discussed all the rules; consulted the rules of other Societies to see in what their experience might aid, and after long and frequent deliberations they submitted to the Council the series of rules proposed by them. These rules were then gone over, *seriatim*, by the Council, and considerable alterations in arrangement, in wording, and in a few cases in principle, were introduced.

The rules as thus agreed to by the Council were then printed and brought before the Society at large. A copy of these rules had been sent to *every member*, whether resident or non-resident, with a request

that they would consider the provisions, and would either send their votes, or, as usual, attend this meeting for the discussion of the rules. From the non-resident members a large number of voting papers have been received, all, with very trivial exceptions, being in favour of the rules as proposed. These exceptions he would bring before the meeting in due course.

He mentioned these facts, shewing the care with which the rules had been drawn up and discussed, not as, in the slightest degree wishing to restrict discussion on them now,—he trusted the Members of the Society would give to them as full and detailed consideration as the Committee and Council had,—but merely to express a hope that no trivial or merely verbal alteration would be urged which, without at all affecting the principles involved in the rules, would still necessitate the sending back such alterations for the consideration of the mofussil members. He did not anticipate that the rules were perfect, or that objections would not arise, but he hoped, that unless these objections appeared important, the rules might be allowed to pass, so that the Council might have them printed off, and circulated to the members.

With these few preliminary remarks he would now go through the rules seriatim, and with the permission of the meeting he would propose to take them in sections, as they were arranged in the copies before the members, noting as he went along the several alterations which had been introduced, and any alterations which have been suggested.

Rule 1 was then adopted.

In Rule 2, clause (a), it had been proposed by one mofussil member that the word thirty be changed to ten. It was stated that members residing within ten miles might be considered as able to take advantage of the privileges of resident members to attend the meetings &c., but that those resident at a greater distance scarcely could. The alteration was put to the meeting, and rejected.

Rule 2, was then put, as proposed by the Council, and carried.

Rules 3, 4, 5 and 6, were then put and carried.

Rules 7 and 8, were also put to the vote, and carried.

In rule 9 clause (b) the President stated that it was proposed by one member that the subscription for *non-resident* ordinary members should be 10 Rs. per annum. Several members expressed an opinion that the

subscription generally might be reduced. It was explained, that the amount proposed would not actually cover the cost of the publications given to the members, with the present numbers. It was then put to the meeting — that the words 6 Rs. per quarter shall be changed to 10 Rs. per annum in Rule 9 clause (b). This resolution was negatived.

Rules 9, 10, 11, 12 were then put to the meeting and carried.

Rules 13, 14, 15, 16, 17, 18 were then put to the meeting and carried.

On putting to the meeting Rule 20, it was moved by Mr. W. Blanford, and seconded by Dr. Smith that this rule be omitted. After some discussion, as it appeared that the rule would not cause any change for twelve months, which would allow ample time for deliberate consideration of the principle involved, the resolution was put to the meeting and negatived.

It was then moved by Dr. Fayer and seconded by Mr. Reinhold, that the remainder of the rules be adopted without further discussion. Several members thought it desirable that opportunity should be afforded for the consideration and discussion of the rules in detail. The resolution being put to the meeting, was negatived.

Rules 19, 20, 21, 22, 23, 24, 25 and 26 were then put to the meeting and adopted.

Rules 27, 28, 29, 30 and 31, were then put to the meeting and adopted.

Rules 32 and 33, were in like manner adopted.

Rules 34 and 35, were then put to the meeting and adopted.

Rules 36, 37, 38, 39, 40, 41 and 42 were then put to the meeting and adopted.

The President then moved, that in Rule 43, the date of the present meeting be inserted as the date from which these rules should have effect.—Carried.

The President then moved, that the Rules as now passed seriatim be the Rules of the Asiatic Society of Bengal: which was carried.

The President thanked the meeting for the patience with which they had gone through these Rules in detail.

The ballot having been taken, the Scrutineers announced that the following gentlemen had been elected to serve as Members of Council and Officers for the ensuing year.

Dr. Th. Oldham, *President.*

Dr. J. Fayrer, C. S. I.,
The Hon'ble J. B. Phear, } *Vice-Presidents.*
Kumara Harendra Krishna,

E. C. Bayley, Esq.

Dr. Th. Anderson.

Dr. J. Ewart.

Col. H. Hyde.

Bábu Devendra Mullicka.

The Hon'ble J. P. Norman.

Dr. S. B. Partridge.

Bábu Rajendralála Mitra.

Col. J. E. Gastrell,
Dr. F. Stoliczka, } *Treasurer and Secretaries.*
H. Blochmann, Esq., }

The President then read the following address.

PRESIDENT'S ADDRESS.

GENTLEMEN,—The close of another year naturally suggests to those interested in the welfare of our Society a brief review of the labours in which we have been engaged during that time. The recurrence of such Anniversaries affords also a fitting opportunity of resting for a while from the constant strain of current work, and calmly recalling the past, endeavouring to extract from such a retrospect a just conception of what our progress, if any, has been; what our failures, and there are certain to have been some, have resulted from; what our hopes of future success may be. We shall thus be the better prepared to enter on the duties of the coming year; and the better able to face the difficulties we are sure to meet, if we know what is their nature, and what their limits are.

It had been my intention to have taken, on this occasion, a general review of the progress of knowledge in those departments of enquiry, to which the Society has more especially devoted itself during the year now closed; to have seen, how far this Society had contributed to that progress, if at all; how far we were lagging behind in the onward race, and to have enquired also how far, and in what way, it might be practicable to encourage the efforts of our members, to evoke their more zealous exertions, and to facilitate their success. But having held the chair of your Society for only a part of the year, and seeing also that the several contributions to our meetings must all be fresh in the memory of the Members, I think it will be scarcely necessary or desirable to attempt a summary review of the papers which have been read. These will be quite as well known to those interested in such enquiries, as they are to myself. And they are perhaps too recent to admit of a just estimate being formed of their true bearing on the general progress of knowledge. The regular, and rapid issue of the Proceedings of the Society, in which are full reports of the several meetings held during the year, absolves your President largely from the duty incumbent on him of recalling your labours. On the other hand, as now one of the older members of this Society, and as one who from the first year of being in this country,

has never ceased to take a deep interest in its welfare and success, I hope I may be permitted without presumption to take a cursory view of the changes which have taken place in the constitution of our body, and of those which must be anticipated; and I would fain hope that such a review will not be without interest and value.

The report of the Council read to you this evening will have made you acquainted with the numerical condition of our Member list at present. It shews that we have on our rolls now 427 Members of whom 294 are in India, while the large number of 133 represents those away from this country. It will be seen also, on comparing these numbers with those of former years, that there has been a large increase in the number of these absent members, to some extent due to more liberal rules for leave, sanctioned during the year, so that, while we had an addition during the year of 42 new members,—and the total number of members now on the list is larger than it has ever been—there has been actually a diminution in the number of paying members of 11. Hitherto it has been the practice to retain on the Member-roll, the names of those who had been members, but who had left India. Very many of these never had any intention of returning to this country. And the retention of their names in the list largely tended to give to the Society an apparent strength which it in reality did not possess. Such absent members have not been in any way contributing members, and have therefore not added to the support of the Society. The new rules this evening sanctioned will I trust tend to reform this. They provide that any person, who has been a member, can on leaving this country secure to himself, during his absence, the publications of the Society by payment of 12 rupees per annum, and can resume his membership rights on his return; while the names of such as leave the country, and do not within three years from the date of leaving express their wish to continue members, shall be, after the lapse of that time, struck off the rolls. It is hoped, that in this way, the managing body of your Society will be able to know with a much nearer approximation to accuracy, than can now be attained, the real amount of income and support to be derived from the members. The anomaly of continuing on our rolls the names of many, who have ceased to be in any way connected even with India, will be removed, while every encouragement is at the

same time held out to induce others to maintain a real, and I may add a profitable, association with the Society.

I have said that the number now on the rolls is larger than at any previous period of the Society's existence. And in so far as this is the case, we may, I think, fairly congratulate ourselves on the fact. Undoubtedly this has been largely brought about by the wise measure of reducing the amount of the annual contributions required from members, which, long anxiously and earnestly urged upon the Council, was at last sanctioned in 1859; since that time the number of members has increased from 180 to 427. It seems to me that we might, with great wisdom go further still in the same direction. Looking either to the value of the publications of the Society (the only return which non-resident members receive for their contributions), or the amount of subscription demanded from members of similar Societies in Europe, and the comparatively greater advantages which members of such Societies enjoy, I think the Asiatic Society of Bengal would do wisely to reduce still farther the monthly contributions from its members.

But while congratulating you on this increase of number, there seems to me another and a more important point of view, from which to study the numerical results given in the Council's report. Gentlemen, the Asiatic Society of Bengal is to this day, I may say, the only Society in this portion of the Indian Empire, specially devoted to the cultivation of pure science. Its publications, extend in an unbroken series over more than eighty years. Devoted to Oriental Literature, Science, Antiquities, Geography and Art, they form a repertory of the most valuable and curious information on every subject connected with this Empire, and are, as I believe, one of the grandest monuments of British dominion, and one of the noblest proofs of British intelligence in the East. Without them, no student can satisfactorily investigate the learning, the languages, the history of this empire. They contain the life-long labours of some of the greatest discoverers in, and some of the noblest contributors to, Oriental knowledge. The Society is still vigorously pursuing the same course. And yet among the many thousands of educated Europeans in this country, and the many thousands also of well informed Native gentlemen, this, the chief and almost the only scientific Society in this part of the Empire, counts its supporters and contributors by only a few hundreds!

There must be good and sufficient reasons for this, and it is worthy of careful enquiry to ascertain, if possible, what these may be.

Again, during the past year, the Society has lost by retirement no less than 20 members; during the preceding year, 20; in 1866, 19; in 1865, 25. I confess I always listen to these announcements of retirement with great pain, accompanied by a guilty consciousness of having myself, as an individual element in the management of the Society, contributed to the result. I think it may be assumed as a fact, that no one will willingly abandon a position which he considers to be advantageous. There have doubtless been frequently private or pecuniary reasons for such; but in by far the majority of cases, I fear we cannot admit that these have been the cause of the numerous retirements. And we must, I am convinced, seek for a more deeply seated, a more vital reason, and admit that the faults are to a large extent internal in the Society. Have we done what in us lay to render the fact of association with us an advantage to the members themselves? I would not for a moment desire to overlook the consideration, that many join the Society from a desire to promote its efforts and advance its researches, without seeking any individual advantage. We gladly acknowledge that there are many such. But unquestionably the majority of our members do, on joining this, or any other Society, look forward to receiving some advantage in return for their contributions, and do calculate also whether these advantages are worth their cost. Now what advantages of this kind do we offer to our Members? All obtain the Journal and other publications of the Society, resident members have also the opportunity of being present at the meetings of the Society, and of freely borrowing books from the library.

First then as to our Journal. I have no scruples in confessing, although I do so with very great regret, that its appearance has been for many years past too irregular, too unpunctual, and uncertain, to enable members even to know whether they would ever receive it or not. Numbers of one year issued late in the succeeding year; others issued without the plates referred to in them, which plates have appeared in some subsequent year's publication; these, gentlemen, have, I am ashamed to say, been the rule rather than the exception. Would any of us continue our subscription to a periodical issued in this

unsatisfactory way? And are we justified in expecting that our Journal will be appreciated, if such be continued? But beyond this, the contributors to the Journal themselves never knew when their papers would appear; there often was no rule observed as to priority of contribution, giving a claim to priority of publication. The practice had grown up of merely announcing to the meetings of the Society the receipt of papers, of which only the titles were given, and nothing more was heard of them, until they appeared in the Journal, perhaps years afterwards, or were possibly returned to their authors. During the past year I rejoice to be able to announce to you that by the strenuous exertions of your Secretaries, much has been done to remedy these defects. No one here can be more painfully or practically aware of the immense difficulty of providing for the punctual appearance of the Journal and Proceedings, than I am myself. These difficulties are the greater, because the result depends not on the efforts of an individual but on those of many: the printer, the artist, the lithographer, &c.; delays may arise from each and all of these, and in addition there are climatal difficulties which can scarcely be foreseen, and sometimes even, if foreseen, can scarcely be guarded against. But while admitting all these, we felt the delay was not insurmountable, and determined not again to ask the Society to believe it unavoidable. Since I have had the honour of taking the chair, the Proceedings have always been issued to you before the ensuing meeting, the illustrations have always accompanied the paper to which they referred, and the completion of the volume for the year, with title and index, was in your hands, before the close of December. This volume is larger, and has more illustrations than preceding ones. The numbers of the Journal have also all appeared; of the first Part, two completing the issue for the past year, and of the Physical Science Part, four numbers with index, contents, title, &c., have all been issued before the close of the year, although the first number had only been commenced in March. An extra number was also issued containing Mr. Theobald's Catalogue of Reptiles, which had been actually in the press for three years; and meteorological Reports were published, extending over a period of nearly two years.

Further, there has not been a single paper of any kind submitted to the Society for publication, which has not either been read in full,

or of which an abstract has not been given, at the meetings, and in all cases the opportunity at least for free discussion of those papers has been given, and such discussion invited. This I consider of high importance, as one of the great advantages of such an association arises from the opportunity its meetings afford of eliciting the views of its members on the subjects brought forward, and thus generating the glow of intellectual enjoyment and intellectual success, by the friction of mind against mind. This advantage is entirely lost when papers are merely laid on the table. At the same time it was found that there remained over several papers, the printing of which had been ordered long before, but which had been laid aside for the publication of others possessing more immediate interest. These have now been all printed in your Journal and, as nearly as the size of the several numbers of the Journal would admit, in the order of succession of their dates of submission to the Society. And now I have the pleasure of telling you that the first number of the Journal, Part II, for the present year 1869, has this evening been placed upon the table, by your Natural history Secretary. This brings up the publication of papers read to the Society to June last; that is to within six months of the date of issue. Gentlemen, I consider this most highly satisfactory, and we owe much to Dr. Stoliczka for the zeal and devotion he has shewn in bringing about this most desirable change. We hope that the same system will be maintained; that, as far as the funds of the Society admit, all papers, excepting under peculiar circumstances, and by special order of the Council, shall be published in the order of the date of submission, and without any repetition of delays, which have been thus shewn to be avoidable.

The Proceedings of the Society again under this system have been really what they assume to be, and the volume for last year, a goodly sized volume of more than three hundred pages, contains much that is valuable and highly interesting; and will, I feel certain, bear very favourable comparison with the records of proceedings of any other similar institution, as giving evidence of healthy vigour and active progress in the life of the Society.

So far I have spoken of the publications of the Society. The other advantage we offer to our members, in return for their contributions is the Library. And with reference to this, I am much pained to say,

that it has not been in our power to do as much as we could have wished. The Council have been fully impressed with the vast importance of this portion of the Society's efforts, but the absolute necessity of pursuing a system of the very strictest economy has prevented the outlay of a single rupee that could be avoided. The allotment of money sanctioned out of the income of the Society at the commencement of the year has been very slightly exceeded (under sanction of the Finance Committee and Council), but there was much, very much, that we desired to do, very much that we were anxious to add to our library but could not. For the coming year, the Council suggests an allotment of money somewhat larger than that of last year and, I hope, that a good deal may be done to supply deficiencies, and to add to our stock of books. I trust also that the close of the year may not again come round, without some progress being made, in what is so seriously required, a new catalogue of our Library &c.

But if we cannot claim that the Members of our Society receive a full and fair equivalent for their contributions, I would suggest to the Members to consider how far this may be due to themselves, as well as to the managing body of the Society, and how far they have it in their own hands to remove this cause of complaint. And first, I would ask the authors of papers to bear in mind the costliness of illustrations, and the tediousness and delay in their preparation; and to reduce these, therefore, to the minimum extent, sufficient for the just elucidation of their arguments, or descriptions. And I would also ask them to diminish, if possible, the demands on the time of our officers, by always submitting with their papers an abstract, embracing the principal points referred to or discussed, and giving a general view of the argument of the writer. No one can prepare such abstracts so effectively as the authors themselves, and this is the only way in which a certainty of nothing being overlooked can be attained.

And to the Members, who are not contributors to our Journal, I would say, that they must be aware that such carefully illustrated publications cannot be issued, without considerable cost. I would appeal to them to save their executive officers, who thus voluntarily devote much time and labour to their service, without any remuneration other than the consciousness of doing their duty, from the harassing and wearying necessities of considering carefully, how every expenditure may

be reduced to a minimum, how this can be cut down, and that left out, or even to decide whether it be possible to publish at all. At the commencement of my tenure of office, it was very seriously discussed, whether it would not be necessary to suspend the publication of your Journal entirely for a time. And you are, gentlemen, indebted to the liberality of your officers for several of the plates which illustrate your publications, during the past year, which the funds of the Society could not have afforded. This is not as it ought to be: and I would throw myself on the feeling of justice and honour of the members, and ask them to prevent a repetition of it. There was at the commencement of the year, a total amount due from different members to the Society, very nearly equal to a whole year's income! Strenuous exertions have been made to call in these sums, but with only very partial success. We have reduced the amount by only about $\frac{1}{8}$ th of the whole. I would ask your aid in this matter. Letter-applications have been made repeatedly to all who are thus indebted to the Society, but believing that such have frequently miscarried, or been overlooked in the pressure of other business, the Council have resolved to print now and send to all the members of the Society, a list of the names and of the amounts due; and we hope that the attention of the members may thus be drawn more effectively to the facts.

Gentlemen, if the Society could now realize the amount due to it from its members, not only would all existing debt be at once removed, but we could add considerably to our actual and permanent income; we could greatly enlarge the Journal, and improve our library, and could thus greatly extend the advantages which we offer to our associates. In connexion with this question of income and expenditure, I may announce to you that, with the hearty co-operation of the Finance Committee of your body, a new system has been introduced of calling in all bills, and discharging them, monthly. You will see in the accounts an item of income derived from the savings thus effected by the payment of cash for work done. But the main advantage resulting from this system is, that the Council know exactly from month to month, how the affairs of the Society stand, and can at once prevent any accumulation of liabilities. The necessity for such a step will be obvious, if I mention that on urgently calling for the immediate submission of all outstanding accounts, several were produced, which

dated even five years back, and which had been allowed to stand over, never having been submitted even though asked for.

It depends, therefore, entirely on the members themselves, how far their advantages as members, can be increased. The Executive of the Society have done what in them lay to promote their interests.

In connection with the question of the publications of the Society, I should fail in my duty did I not make known to the Society, that I have had several, I might say numerous, appeals from members of the Society, to induce a reversion to the old system of publishing all papers, no matter what their subject, in the same number of the Journal, doing away with the division into two series, as now, a change first introduced in 1865 on the motion of Lt. Beavan. On the other hand, other members are equally strenuous in urging the continuance of the present system. I think much may be urged on both sides. And were I content to anticipate only a continuance of the present extremely limited amount of funds at the disposal of the Council, for such publications, I would decidedly urge the abandonment of this division of the Journal. I think we must confess, that the conditions of the case are quite changed since first the Journal was issued. The facilities of communication with Europe and America have been immeasurably extended; Societies have multiplied at home; and there is now, no difficulty whatever for any one to find a fitting medium of publication for any researches he may undertake, the record of which is worthy of being published. A large and special audience is thus at once insured; and delay in making known his results avoided. We cannot now, therefore, look forward to our Journal being, as it has been in past years, the record of the life-long labours of any member. Even the most zealous contributors to its pages find it desirable to send to Societies at home their most valuable papers. And it is consequently difficult to maintain the high character of the Journal, and the fitting publication in two distinct series of the year's contributions. During the year just closed, only two numbers of Part I have been issued; simply because there were no more papers to be printed; while it may, I think, fairly be urged at the same time that the Physical Science papers, in Part II, would have been in no way injured or diminished in value, by the appearance, in the same number, of the oriental papers. The attempt to form two

distinct volumes for each year has failed, because there has not been material enough, or funds enough, to produce two volumes, and each series has, I think, lost in general interest by being isolated. Moreover the Proceedings now absorb all the smaller papers which are of interest, while the issue separately of all these parts, numbers, and volumes adds to the cost.

My own opinion, therefore is, that if we are to have only a continuance of the present state of things, it would be wiser to revert to the old system of publication of all papers in one series, issuing the numbers of that series at regular intervals, of say two months. But if, on the other hand, as I think we are justified in anticipating, we do receive such an accession of strength, as will place the funds at the disposal of the Society, for such publications on a much more satisfactory footing; then, I believe the Council would be able to secure the fitting publication of sufficient material in both series to form two concurrent volumes. In this case, the division would be advantageous. In this matter also, the decision entirely rests with the members of the Society at large. A reference to the accounts of the Society will shew you, that the Council have been fully alive to the importance of improving and enlarging your Journal and Proceedings. They have steadily increased the allotment to such purposes out of the general funds of the Society, so far as was consistent with the other demands on these funds. If you go back only a few years you will see that in 1864, the allotment for publications was only 3,500 Rs.; this was also the amount in 1865; in 1866, this sum was increased to 4,400 Rs.; and in 1867, and 1868, to 5,000 Rs. This is very nearly one-half of the whole income of the Society. And I would also ask you to remember the fact, that were that income doubled, there would be very little increase in the cost of establishments for management: and that more than a half of that increase would be available for the extension and improvement of your publications. Cannot this be accomplished? Are we to sit down in despair of seeing our finances in a more flourishing state? Are we to be content to see the most valuable papers seek for publication elsewhere, because we are unable to pay for their illustrations here? I would appeal to my fellow members of the Society, and ask them to aid their Council in this respect. I

will not believe that you look upon the efforts of the Society as a mere pastime, that you come here for the idle purpose of passing an hour, or of merely gratifying intellectual curiosity, however laudable such might be. I would rather be convinced that you feel, that by the very act of enrolling yourselves on the list of this, or any other institution for the promotion of science, you accept the position of joint trustees for the great treasury of truth, and are in all honour bound to see that the talents thus committed to your charge receive no diminution, but rather bear fruitful increase, at your hand. If then, each member of the Society, would but induce one single new member to join—and surely it is not assuming too much, that one at least in the acquaintance of every one of us, would take an interest in our pursuits,—I say, if each member of the Society added only one to our lists, and thus doubled our numbers, the difficulties under which we now labour would disappear, the utility of the Society would be largely increased, and the circle of its influence might be still further widened, by reducing the amount of contributions demanded from each of its members.

During the year just closed, the Society at large has unanimously sanctioned the formal transfer of its collections of Natural History, Antiquities, and of miscellaneous objects, to the Trustees of the Indian Museum, incorporated under Act XVII of 1866, to be by them held in trust, for the Society, to form part of a general Museum, freely accessible to all, and to be located in a building specially erected for this object. This building, as the members of the Society are aware, is now in progress. It is situated in the very best locality in Calcutta, facing the large open maidan; it will be large, roomy, and we trust admirably adapted for the purposes for which it has been intended. Pending the completion of this building, the collections still remain in the rooms of the Society, and in a house in an adjoining street, rented to provide the necessary additional accommodation. Full lists of those collections have also been prepared by the zealous exertion of two of our members, Dr. Stoliczka and Mr. V. Ball, who acted as Curators of the Indian Museum during the absence of Dr. John Anderson with the expedition to Yunnan. And the Council are now therefore authorized and prepared finally to

hand over the collections to the trust-charge of the 'Trustees of the Indian Museum.'

This transfer of our collections to an institution, where they are certain to be fully cared for and properly exhibited, is, I believe, the most important change which has affected the Asiatic Society for the last half century. It was not, until after much deliberation, that the Asiatic Society of Bengal ever commenced the formation of a Museum. There were strong and weighty reasons urged against the advisability of that course, derived from the experience of several associations elsewhere. The unavoidable increase in the cost of maintaining such collections was urged; the inability of any limited Society to meet this, or even to provide accommodation for such collections if formed; the terrible waste and destruction of objects of Natural History in this climate; all these difficulties were considered. And in the face of all, it was still determined to commence a Museum. In the wisdom of that determination, under the circumstances, I entirely concur. There was at that time in this city no collection whatever available for the students. Individuals who were interested in special branches of enquiry, had provided themselves, at great cost, with series such as were required for their own immediate researches. But these were, of course, not accessible to the public, or to other students. Now, for the success of this Society, it was absolutely essential that such collections should exist, and most wisely, therefore, did the members devote their energies to the formation of a Museum. For years, unaided by public contributions, steady progress was made. But the truth of the warnings they had received soon made itself manifest. So long since as 1837,—a whole generation since,—it was seriously discussed whether the attempt should not be abandoned. In the following year, it was agreed that either the Museum should be given up, or the publications of the Society. An earnest appeal was then made to the Government of the day for aid. A grant of 200 Rupees per month was sanctioned, and the collections were saved. At various times subsequently the amount of the grant was increased, and effort after effort was made to bring the collections into better order and arrangement. The Society made constant sacrifices to obtain proper means for their exhibition and preservation. But the demands still increased. Mr. Blyth was appointed Curator towards

the end of 1841, and at once the Zoological department of your collections began to assume an importance and value which they had no claim to before. From the time of his appointment, until, in 1862, broken health compelled him to seek a more favourable climate, your Journal bears continuous testimony to the wide range of his knowledge, to the carefulness of his labours, and to the enthusiasm and devotion he brought to his studies. In truth, I know of no series of papers, the contribution of one man, which have tended so largely and so thoroughly to illustrate the fauna of any one country as those of Mr. Blyth do that of India. Mr. Piddington also had for many years contributed largely to our knowledge of the resources of this country, and continued in charge of the Mineralogical and Geological portions of your collections, until in 1856 the establishment of a systematic Geological Survey of the country, and the necessity of providing a depository for its collections, which the Society could not give, led to the founding, in a separate establishment, of the Geological Museum.

But, notwithstanding the liberal contributions of the Government, it was still found that the Museum was a source of constant expenditure, which the limited resources of the Society could not meet, and of constant anxiety. If care were given to one division of the collections, all others were necessarily neglected; no sufficient staff could be maintained; no sufficient space could be afforded. And if additions were made in one direction, they could only be accommodated by the exclusion of some other class. It was not, therefore, surprising to find serious complaints frequently urged of the way in which valuable collections had been treated. In fact, such was inevitable; we had neither the room nor the funds required for the greatly increased collections. After much discussion and careful deliberation, it was determined to appeal to the State, to establish a proper and efficient Museum chiefly illustrative of the Natural History resources of India. Some time elapsed, many difficulties intervened; the disturbed state of the country; the pressing demands on the public revenues for other objects; the changes in the *personnel* of the Government; all tended to delay the final decision of the question. But the Society was gratified in 1862, by the announcement that "in the opinion of the Governor-General in Council, the time had arrived when

“ the foundation of a Public Museum in Calcutta, which has been generally accepted as a duty of the Government, might be practically realized.” There were still many details of arrangement to be gone into; and in 1866, an Act of the Indian Legislature was passed, providing for the erection of a proper building, and formally sanctioning terms on which the Asiatic Society of Bengal should be prepared to hand over to a Board of Trustees their collections, to be held in trust for the Society. To the Society was also secured the right of nominating, through its Council, four out of the whole number of Trustees (13) and certain other privileges were also granted. The vote of the Society at large, taken in November last, confirmed the proposed transfer of the collections, which can now, therefore, be formally carried out.

I cannot but congratulate the Society most heartily on this highly satisfactory termination of a long standing, and ever-increasing, difficulty. They have secured the maintenance of a well-arranged and extensive Museum in Calcutta; they have obtained a public and legislative guarantee for the support of this; they have secured a continuance of their interest in such collections, so that there is little fear that the objects which the Society originally had in making these collections shall be forgotten or neglected; or if they are neglected, it will be the fault of the Society itself; and by doing this, they have relieved the Society from a heavy and increasing demand on its pecuniary resources. On the other hand, I think we must all gladly acknowledge the obligations of the Society towards the Government of this country, for the liberal support they have given to such objects, and for the gracious and ready acknowledgment which their doing so has expressed of the unflinching exertions which the Asiatic Society of Bengal, through good report and evil report, in times of plenty as in times of difficulty, had, through the long lapse of half a century, devoted to what they justly considered a necessary and essential element in the satisfactory investigation of the history of this country, and of its resources.

There still remains another important change, contemplated in the arrangements to which I have just alluded, which must be sanctioned by the Society at large, before they can be terminated. That is, the proposal that the Society should leave its present premises, and take up

its abode in rooms to be set apart for it in the general building devoted to the Indian Museum. Under this proposal, the Society is to retain its property in the present house :—another and a very marked instance of the liberal view which the Government of the country have taken of the labours of the Society. There can be no question, that immediate advantage in a pecuniary point of view would result to the Society from such a move, as we should, in addition to our income from subscriptions, receive whatever rent would be realized for the house we now occupy. And yet I confess that, individually, I look forward to such a move, if carried out, with anticipations of nothing but mischief. The house we now meet in has been the abode of the Asiatic Society since long before any of its present members can remember. All our memories, all our associations, are with it. It has afforded accommodation to the Society for two generations and more. If the Museum be removed, which now occupies more than three-fourths of the whole house, there will be ample, and more than ample, accommodation for the Society's property, and for any extension of its Library which can be contemplated or accomplished for the next century. We would therefore abandon at much cost and risk to our books, maps, paintings, &c. in removal, a house most admirably situated, and in which we have had a long, successful, and independent existence, in order to take up our abode in rooms which, necessarily designed as a part of a building intended for a general Museum, are not, and cannot be so well adapted for the purposes of a Society like ours, as our present rooms are. By doing so, we would I think, cease to have that independence of existence, which is so desirable. We would become but the smallest and least influential part of a great whole, and I cannot but consider it a certainty that in the unavoidable extension of the Museum, and of its demands for space, the Asiatic Society would simply be screwed out again, and be compelled to return to its present abode, or seek a domicile elsewhere ; or what is just as likely, would be absorbed in the general extension.

I have always felt, and I know that this feeling is shared by other members of the Society also, that if once the Society comes to occupy rooms forming a small portion of a large public building, the natural consequence will be a conviction that it also has become a part of a Government establishment, and is supported by Government. And the result

of this will be, a large withdrawal of support from individuals. Indeed, I found it very difficult to persuade a member of the Society the other day that this was not the case *now*, and to induce him to continue his contributions. I confess I anticipate this result with some dread, and I would seek to avert the evil. The case would be different if the proposition were to construct a separate abode for the Asiatic Society, which could be specially adapted to their wants. But this is not the case: the proposition is, that the Society should take up its abode in a corner of a great building designed for other purposes, in rooms that beyond a question will soon be needed for other purposes. I venture to think, that the Society would be vastly more benefited if a pecuniary equivalent for the proposed rooms were secured to them, and they continued in their present abode. There is, however, ample time for the consideration of this question, as the move cannot be made for some years yet.

You will, gentlemen, have heard with regret of the loss of seven of our members during the past twelve months by death. Of those seven, one only, Mr. Foster Hill, had been a contributor to our meetings. Mr. Hill joined the Society soon after his arrival in this country to take up the important duties of Professor of Civil Engineering in Calcutta, and we looked forward with much hope to his increasing interest in our common pursuits. Of the others, whose decease has been announced to you, some had filled prominent positions, as citizens and rulers in the land, with high honour and credit; one especially, Prosonno Coomar Thakur, we would name as having long and earnestly shewn his appreciation of the value of knowledge by actively engaging "in the holy cause of enlightening his countrymen;" but this is scarcely the place to consider their history in such a light. As members of the Asiatic Society, they had not been contributors to our Journal, but they had for many years proved by their constant membership, that they appreciated the importance of science, and were impressed with a sense of that duty which devolves on the wealthy to maintain and support, by their wealth and by the sanction which their names and public station give, those means of co-operation, by which the progress of the real labourers in science is facilitated. In this they had offered an example worthy of imitation to a wider extent than it has hitherto claimed.

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There are hundreds who from various causes, can assist and support science in no other way than by their purse; but I would urge that this aid is a duty; a duty, even enhanced by self-interest, which will certainly not lose its reward. How forcibly and yet how quaintly Bacon says "Knowledge is not a couch for the curious spirit, nor a terrace for the wandering, nor a tower of state for the proud mind, nor a vantage ground for the haughty, nor a shop for profit and sale, but a storehouse for the glory of God, and the endowment of mankind." I know that the standard of mental culture among the educated classes in this country, whether European or Native, is too high, to allow me for a moment to think that they are insensible to these claims of science on their support. I would rather suppose that these claims have not as yet forced themselves on their notice. I would not degrade knowledge by making it "a shop for profit and sale," in asking the consideration of the individual gains to be acquired by its patronage, but I would recall to you, that science has ever been the most powerful minister of national power, the most effective guide to national wealth, "the true handmaid of religion, the one manifesting the will the other the power of God," and I would urge that the neglect to encourage and sustain this, and such other kindred institutions, is the neglect of a duty which we owe to ourselves, to our successors, to our country. It is mainly, gentlemen, by the combined efforts of such Societies, by the co-operation of their members, by the increased interest which attaches to common studies pursued with a common object, by the minor intellectual contests which arise from the challenge of mind to mind in the working of such institutions, that the soldiers of science are trained in the use of their weapons, and enabled to go forth, clad in the panoply of scientific truth, as loyal knights to do battle with the terrors of superstition and to scatter the hosts of ignorance.

We have all, gentlemen, other and more pressing claims on our time; other and onerous duties to perform. Rarely indeed has it happened, that science has been able to obtain the undivided attention and time of any of her cultivators, but we can contribute, each according to his own ability. There is not one, if he be only willing and humble enough to attempt it in the right spirit,—letting his "mind, like a pure mirror, reflect nature without distortion"—who cannot

add something to the pile of knowledge; who cannot pick up a branch here and there; a dry twig from the trees around. Others perhaps will tie these into faggots, and add them to the pile (and the lowest menials in the service of science can aid in this) and at last some other devout worshipper will come, and touching the heap with a spark of Promethean fire, will call forth all the secret light and heat it contains, to illumine the temple of knowledge. It is only thus by the useful combination of many, that true progress is obtained, and even had our Society not existed, we should have been compelled in other ways to unite the efforts of many, before we could arrive at the solution of our problems.

It was, gentlemen, with convictions of this kind, that extended education, and the general diffusion of science, more especially as applied to the industrial arts, were among the most effective means by which the social condition of this country could be improved; that by encouraging the cultivation of the natural or inductive sciences, it was possible to exalt the tastes of the educated youth of this land; that I was led to consider how far it might not be possible for this Society, through its Council, to aid in facilitating the attainment of this desirable end. In the valuable address delivered from this chair, at the close of the previous year, your President, Dr. Fayer, remarked on the serious discouragement with which these studies had been met in this country. He truly said: "If ever we propose to educate the people thoroughly, to lead them from lower to higher truths, it can only be by making them acquainted with the subjects included under the comprehensive term of 'Physical Science' * * * by imbuing them with a comprehension of those general laws by which all physical phenomena are regulated." He went on to say, "It is not here, though, that the elementary knowledge could be imparted, but in the schools where the youthful mind is trained to observation and comprehension of laws, the results of whose operations are recorded and verified here." Entirely agreeing as I did in these views and in the opinion that this was a subject worthy of the consideration of the Society, I lost no time, on taking your chair, in urging the Council to aid in this good cause. I am happy to say, the proposition met with their earnest support. A committee was selected, and entrusted with

the discussion of the best means of bringing the matter to the favorable consideration of the authorities who would have to carry out any proposed changes; and also to consider what, and how great, those changes should be, in order to ensure the successful attainment of the object. The question was fully discussed, and it was decided to address His Excellency the Governor-General, in the matter. As Patron of this Society, and at the same time Chancellor of the University of Calcutta, we felt confident of the interest which His Excellency would take in the question. And, as to the means which appeared to us the best adapted to accomplish the end in view, we were quite agreed, that any change must be gradually introduced, since the agency by which these subjects could be taught must in this country be to a large extent created, before there could be any very large extension of such studies. And seeing, not only in this country but in Great Britain, that the Universities were the great object of ambition with all the better class of students, and that the curriculum of studies in the vast majority of Schools was almost entirely regulated by a reference to the University standards,—even when the large majority of the school pupils never intended to proceed to the higher grade of an University training,—we have urged the very simple addition of an elementary knowledge of Natural or Physical Science to the course required from every candidate for matriculation in the University of Calcutta. We were satisfied that if this were demanded, and rendered obligatory with the pupils, the information would be acquired; that the earlier students would soon become themselves better qualified to teach others; and that thus gradually, but most surely, a large amount of knowledge would be disseminated, the good effects of which we did not venture to doubt. In this spirit, we addressed His Excellency, and we have since been informed, that His Excellency has laid the question officially before his Council, where, we doubt not, it will receive full and just consideration.

I conceive that this has been a most legitimate exercise of the influence which the Asiatic Society ought to possess; and I trust the effect may be as beneficial as we anticipate. And indirectly, I trust also, it may be of essential advantage to the Society itself, in bringing into our ranks, a large number of new recruits, ready to take up arms in the cause of truth. But let us not forget at the same time

that while we urge upon others the necessity of such extended education,—if our youth are to be trained up as useful citizens and men,—let us not forget, I say, that our Society itself forms the necessary complement to this early training, let us view ourselves even more than we have been wont to do as an educational body, and as devoted as much to the improvement of others as to the advancement of our own information. Let us all be fellow-labourers in the great search after truth, fellow-pupils in the school of nature, fellow-students of that “great first book—the world,”—all I trust ready and anxious to communicate to others any knowledge we may ourselves possess; ready and anxious also to learn from others all that they can communicate. And by no means the least advantage arising from such studies consists in the inevitable result which habits of observation must produce, namely, that they call into existence, and provoke the exercise of, a process of self-education, without which no man is well-taught. True that in every physical science, where the great means of acquiring knowledge is by observation, much must be accepted on the authority of others,—unless we would have the human mind remain stationary, and allow the accumulated stores of one generation of men to be lost to another,—still each must for himself go over these observations, must trace the successive steps in the reasoning based upon them, and must, if he wish to apply them, stamp those reasonings with the impress of his own individuality; each must observe, each must compare, each must discover, for himself. Material forms and arrangements must be seen to be understood clearly, and the students are thus forced to consult the great book of the world itself, if they desire their information to be accurate; they are compelled to be the “children of nature and not her grandchildren.” And if such habits of observation and comparison ever be produced, we may rest assured that they will continue to be exercised. The great secrets of nature are not proclaimed in the market-place; they are not open to all, but are hidden in her inmost sanctuary, and if we would be honoured by her confidence, we must devote ourselves to her service. New methods of enquiry, new modes of research are called into play. The questions to be solved here, are not of our own imagination, they are ready prepared to our hands. We cannot here start from our own suppositions, and laying down

definitions, demonstrate identities as determined from a reference to such definitions. We must compare, we must determine resemblances by a reference to type and establish similarity in effects by their analogy with known results of known causes. And this practice of reasoning from analogy, this necessity for estimating degrees of probability, and for balancing varying amounts of evidence, and the habits of thought thus educed, constitute one of the marked advantages of the Natural Sciences as part of a system of education. They thus fill a blank by calling into active and continuous operation habits of thought, and by educing powers of mind, which neither the study of literature nor of the mathematical or social sciences sufficiently exercise.

We have had during the year the pleasure of welcoming back from Abyssinia our able associate, Mr. William Blanford, who had been attached as Geologist and Naturalist to the force engaged in that country, for the release of the prisoners confined there. During the progress of his interesting trip, the Society had received several communications giving brief accounts of his progress, which were full of interest, and at the last meeting (Dec.) Mr. Blanford completed these sketches up to the date of his return. At the same meeting, a considerable part of the valuable collections which he had brought back with him, illustrative of the Natural History and Geology of Abyssinia, was placed on the table, and bore ample testimony to the energy and enthusiasm which he had brought to bear on his enquiries. Since his return, Mr. Blanford has been engaged in the more careful examination of his collections, and in the preparation of his detailed reports. I sincerely hope that these may be, under the sanction of the Government of India, given to the public in a fitting form, with ample illustrations. It is true that the Natural History of Abyssinia has been perhaps better worked out, than that of any other equally unfrequented part of the African Continent, and that in consequence, the number of novelties brought back by Mr. Blanford has not been very large. But he has been fortunate in meeting several and in obtaining specimens also, which throw additional light on the structure and history of other animals the existence of which was known, but not with sufficient accuracy. Further, although many papers of high importance have been published in other languages treating of the Natural

History of Abyssinia, there is scarcely a single one in English, and certainly there never has been any attempt to give a general statement of the facts in our language. I feel also that the publication of such researches, under the editorship of the original observer himself, would be an object worthy of the patronage of a great Government like that of this country, and would be a fitting supplement to the enlightened interest which they have already displayed in, and the liberal sanction they have already afforded to, such scientific enquiries in the country they were compelled to enter. We look forward with great interest to Mr. Blanford's detailed reports, knowing how well prepared he was for the investigations he has been engaged in, by his long and eager study of the Natural History, and his intimate acquaintance with the Geology, of India. It was to me a great pleasure to urge the special fitness of my esteemed and able colleague for such a duty when at home last year, and I have no hesitation in expressing my conviction that the importance of the results will fully justify these anticipations. Of course, the extent of Mr. Blanford's acquisitions must be considered with reference to the very brief duration of his visit, and the necessity, under the peculiar circumstances, of his confining his researches to the immediate neighbourhood of the line of march of the force which he accompanied.

Another of our members, Dr. John Anderson, had been despatched with the expedition from British Burmah to Yunan, and also returned towards the close of the year. We have not yet had any detail of Dr. Anderson's observations in those little known countries, but the very valuable and beautiful series of costumes, weapons, implements, musical instruments, &c., portions of which are still hanging in this room, and which have been all open to the inspection of the public for days past, shewed what a rich harvest he had gathered, bearing on the history, habits and relations of the curious tribes among which he had been. The collection is also singularly suggestive of connection between these tribes and others. At the meeting in June last, some Panthay visitors were present, and a sketch of the history of this strange people,—an island of Mussulmans in the centre of a raging ocean of Chinese, which had withstood all the attacks made upon them, and had not only held out against their threatened destruction, but were yearly gaining in numbers, importance, and strength,—was

given by Maulvī Abdullatīf; drawn up from a MS. in Arabic by one of the Panthays themselves. We anticipate a large addition to our knowledge of these people, and of their border tribes, from the account of Dr. Anderson's sojourn among them, and hope it may be soon accessible to the members of the Society and the public.

The second part of the Journal for 1868, contains the usual meteorological returns for Calcutta up to close of August. The 1st number for 1869, now on the table, brings these up to the close of October. These had been allowed to get so much into arrear that, at the close of the preceding year, they had been issued only up to August, 1866. It is hoped that we shall in future be able to give these returns more quickly than hitherto; and that very soon the necessity for publishing them at all may be removed, by the issue in a more complete and general form, of tables exhibiting the chief meteorological elements, not only for Calcutta, but for Bengal generally, from the office of the meteorological reporter. We have seen, with pleasure, that the Government of Bengal has acted on the advice of their able officer, and enabled him, by visiting the out-stations, and personally conferring with the several observers, testing and comparing their instruments, and the modes of registration, to introduce a greater uniformity in the system, and thus obtain a greater regularity in the returns. This is the essential first step towards improvement, and we doubt not will bear good fruit; for, however interesting to local observers local observations may be, they fail entirely in leading up to any general results, unless they can be correlated with other observations in adjoining or more distant localities; and this correlation and comparison is worse than useless, unless the observations have been in each case conducted with nearly equal care, and on a uniform system. This element of success will now be secured for Bengal, by Mr. H. Blanford's visits to the Bengal stations. Similar efforts have been made in the N. W. Provinces, and we look forward to the adoption of a uniform system, throughout India generally, when it may be practicable to deduce from all the returns one general review of the meteorology of India. I would suggest that useful progress towards the accomplishment of this desirable end might be made, if monthly summaries

prepared by the officers charged with the record of these observations under each of the local Governments, were to be published together each month. The observations are now published in detail from week to week, but I think the information they afford, might, with great advantage, be summarized each successive month.

The great value, commercially, of these returns have been acknowledged during the year, by the application from Commercial bodies, for the publication of information regarding rain-fall, &c., in the Upper Provinces. And I cannot help thinking that more practical benefit would be derived from the issue of a brief summary of results each month, and indeed, I would hope, each week, than from the publication of a long list of detailed numerical results, which few persons ever look at; I would also gladly see a combination of the several returns now given. In Calcutta we have weekly publications of the results obtained at the Surveyor-General's Office, as well as those compiled in the office of the meteorological reporters to Government. Now, neither of these are complete in themselves. The establishment maintained at either office is insufficient to secure full and satisfactory results. And we would hope that arrangements may be made to combine both, and to form one really satisfactory, and thoroughly efficient, meteorological observatory. Hitherto no observations whatever have been made of the electrical elements, and their disturbances; none of the seismic phenomena, the importance of which in a general physical study of the country, we have been so recently reminded of,—no satisfactory photometric observations have been made, and—of still higher interest and importance practically—no trustworthy observations of the amount and distribution of evaporation.

I have no doubt all these important questions will receive due attention in time. And I am confident that the Asiatic Society, which has now for nearly quarter of a century steadily, and at great cost to itself, given to the public continuous returns of the meteorological results obtained in Calcutta, will rejoice to see such observations extended, systematized, and compared, with an amount of detail and care, commensurate with the importance of a knowledge of the atmospheric forces and their changes in direction or amount.

And here I would express our grateful sense of the manifold assis-

tance we receive from the Surveyor General's office. To Colonel Thuillier and Colonel Gastrell we are indebted for a continuance of the hearty and friendly aid they have invariably afforded to the Society, not only by their personal support, but also by the liberality with which they have aided the Society in bringing out the many illustrations which accompany the volumes of your Journal, and which, without this aid, it would have been impossible for your Council to publish.

I am happy to be able to announce to the Society that the various papers on the Ethnology of Bengal, which the Government have requested Col. Dalton to edit, together with his own report on the tribes among which he has so long laboured, and with whom he is so well acquainted, have now attained such progress towards completion, as justifies their being at once sent to press; and we may hope for greater progress being made during the coming year, towards their completion. Dr. Simpson has also completed the series of photographs of those tribes, which he had not before had an opportunity of picturing. The history of the native races in other parts of this vast empire has also attracted much attention, and the Society has received from various districts, valuable reports on the inhabitants, their history, languages, customs, &c. I would also here acknowledge the impetus which has been given to such studies by the publication during the year of Mr. Hunter's valued contributions to the study of the Non-Aryan races of India. These commend themselves alike to those who would desire to study the history of these people, with a view to trace out the curious and intricate relationship established by a study of their languages, and the evolution of these in successive ages—and to those who may be placed in positions of authority, and have to deal with these 'lapsed peoples' in their political and social relations. I am confident that no one is more thoroughly convinced of the fact, that these researches have not yet, and indeed could not as yet, have attained to any completeness or perfection than the accomplished author himself. But if in nothing else, then the greater facility which such a work as his Dictionary affords for seeing the errors, and, by eliminating these, making a still further advance towards truth—if in nothing else than this, every student of these Non-Aryan people—and who that has taken the slightest interest in the ethnological history of

India, has not been to some extent a student of these tribes,)—must feel largely indebted to Mr. Hunter. We look forward with great interest to the promised comparative grammar of these tongues, and trust the author may be enabled to carry out his intentions satisfactorily and quickly.

From the study of the races still existing in the less frequented districts of this country, or of which the last dying embers are still smouldering on the hill sides, the transition is easy to those Palæo-ethnologic enquiries which bear on that question of surpassing interest, the antiquity of man. I have recently published in the Records of the Geological Survey of India careful drawings of the agate flake or knife, found in the deposits of the upper Godavery, of the discovery of which I made the first announcement to this Society in 1865 (Dec.) and then briefly alluded to this great importance of the discovery. During the year, various additions have been made to our knowledge of the limits of area, over which these records of the stone age have been found. I would ask those who are interested in this investigation to compare the series which Dr. J. Anderson has brought back from China. And we have had the gratification of making known also the first instance of the occurrence in India of evidence of the use by early races of copper in the manufacture of implements of the same general character, as mark the use of this metal in other countries also. Some of these implements procured by Mr. Bassett Colvin near Mynpoorie have been proved to be of pure copper. But, as is generally the case in such enquiries, the announcement of this discovery (supposed to be unique) has led to the knowledge that others have been found elsewhere also. And possibly we shall before long have abundant evidence that, in India, as elsewhere, a certain law of successive development in the use and manufacture of metals has obtained. The very remarkable and very interesting discoveries in Coorg, of which your proceedings contain the record, and of which further details have since been received, cannot fail to prove of high interest, and to excite to similar research elsewhere. These, however, come down to a time, when we tread on the verge of historic records. I would more eagerly seek for the co-operation of many through the country in the search for proof of the existence of man in earlier times. And I would venture to give here, a very brief and

hasty sketch of the reasons which lead geologists to anticipate such discoveries.

I need scarcely detain you by recounting the several steps in the discoveries, which though commenced nearly forty years since, have only within the last ten or so, led to the general acceptance, as a fact, of the existence of man along with numerous animals which have since become extinct ; nor of the various ages which different authors have assigned to these instances. Four divisions have been tolerably well ascertained in Europe. 1. The ante-glacial epoch, or, as Lartet calls it, the epoch of the cave-bear ; 2nd the glacial epoch, or that of the Mammuth and Rhinoceros ; 3rd the post-glacial, or that of the reindeer ; and 4th, the actual, or that of the Aurochs. Now, you will perceive that this very simple enumeration of the principal animal remains, found contemporary with the evidence of man in these successive epochs, combines with the physical evidence, as indicated by the other names of glacial, post-glacial, &c., to shew, that enormous physical changes, bringing with them equally marked organic changes, had occurred over the surface of Europe, even in these very recent (geologically) periods. Still greater alterations both of surface and climate, and of the animals existing at the time had occurred in the periods immediately preceding those to which I have just referred. And the Miocene (Mammalian) fauna of Europe differs in almost every species from those which succeeded it. These tremendous physical changes brought about such changes in climate, &c., that the Miocene animals were succeeded by others fitted to live in a temperate climate, and these again by others who had to endure the intense severity of an Arctic winter, during the so-called glacial period. But if we now look to the history of later geological periods in India, we find no evidence of these great climatal changes, (so far as the greater portion of this immense empire is concerned). True, there is abundant evidence in the great ranges of the Himalayas to shew the former extension of the glaciers of those hills. But I am not aware of the existence of any such evidence beyond the hills ; certainly, I think, none which would prove any great lowering of temperature over a wide area. And coincident with this absence of change in physical conditions, we find an equally marked absence of change in the fauna. We have in India none of those very strongly marked divisions which exist in the successive faunæ of Europe.

Thus it happens, as first shadowed out by Falconer, that we find living at the present day the actual and unchanged descendants of several of those animals, the remains of which Falconer and Cautley found buried under some thousands of feet of the Sivalik deposits. And the evidence of the continuity of this descent is afforded by the deposits newer than the Sivaliks. The common Gharial left its bones on the mudbanks of the Sivalik period, just as it now basks on the muddy banks of our existing rivers. The little *Emys* (*Pangshura*) *tectum* lived then as now. Elephants then, as now, roamed though the Sivalik forests. True horses (*Equus*) existed; the Camel and Giraffe, cotemporaries of man at the present time, may have been his cotemporaries then also, while true oxen and buffaloes abounded also. The monkeys of that time can scarcely be distinguished from the Honumans which still chatter in our forests. We have therefore abundant evidence that, in India, the existing order of things has dated from a very remote period, and that all the conditions of those early times were suited to the requirements of man. Many of the animals have since then lived down to the period of man, and some exist now. Why then is not the reverse, or reciprocal, way of putting the statement equally admissible, that man had lived back to this early period?

In this peculiar relationship of continuity between the newer deposits of the Godavery and Nerbudda, and the older beds of the Sivaliks, consists one of the marked points of interest attaching to the discovery of evidence of man in any one part of the series. There is no sudden or marked break traceable in the Mammalian fauna which inhabited those countries at the successive periods, why should there be any break in the period through which man was a cotemporary of these animals?

In some very interesting and very important remarks made by my valued colleague, Mr. Wm. Blandford, last year, when the history of the stone implements found in various parts of India was before the Society, he pointed out very briefly how, even up to the present day, the fauna of India presents a remarkable mixture of African and Malay forms; and how the fauna of the Nerbudda gravels, so far as known, appeared "to have been either purely Western, (African and European) in its affinities or to have been much more nearly allied

to the Western fauna than is that now existing." Mr. Blanford also argued very justly, that the case which he instanced in the Nerbudda faunæ of the complete substitution of one animal for another of distinct affinities, indicated that a larger lapse of time had intervened since the deposition of the Nerbudda beds than had taken place in Europe since the formation of those pleistocene beds in which the oldest remains of man yet discovered have been found; "and since which no such case of substitution was known." The reasoning appears to be perfectly correct, inasmuch as we have no evidence of a great change of climate since that early period. But I venture to think that Mr. Blanford has not stated the whole truth. And I believe he would agree with me in thinking that this intimate connection with the fauna of Europe and Africa to which he alludes, as regards the comparatively recent beds of the Nerbudda, can be traced with perfect certainty back to the very base of the Sivaliks, and that the mammalian fauna of India (West and North-West) was one and the same with the fauna of Europe and Africa during the miocene period. We have as yet no evidence to decide the question whether the same animals wandered over the same area at the same time; which, however, is a totally different question. And there were also, and of course, geographical differences in the animals then, precisely as there are now. But the discoveries of Gaudry in Greece some six years since shewed at once that the miocene fauna of Pikermi differed not more from the Sivalik fauna of India on the one hand, than it did from the true miocene of Germany and North Europe on the other. Mastodon, Hipparion, Hyænodon, Musk-deer (*Dremotherium*), Giraffe, and Satyroid apes, all form units in the evidence which indissolubly connects the upper miocene of Europe with those of the Sivalik Hills. And when examined with a little more detail in comparison, we find that the living species which come nearest to the fossil species found in these rich deposits of Pikermi and elsewhere in Greece, the spotted Hyæna, the two-horned Rhinoceros, the Zebra, the Giraffe, and several antelopes are peculiarly African. Further, Unger found among the vegetable remains which occur in numbers close by in Eubœa (and on the same geological horizon) more than 40 per cent. most nearly allied to forms now living in Southern Africa.

We have already alluded to the absence in India of any of those

great physical changes accompanied by marked organic differences subsequently to this Upper Miocene period. And to this cause is due the fact to which Mr. Blanford so justly drew attention, that the fauna of the Nerbudda valley-beds, has a nearer alliance with the Western or Africo-European fauna, than has that now existing in the Nerbudda district. The two faunæ were in fact one in earlier times, and the divergence since then has been most gradual and is still in progress.

Gentlemen, I allude to these researches not so much for the object of exciting attention to the very startling and very important facts which these truths contain, but rather to point out how essential it is that in such enquiries we should be convinced, that the only true solution to be sought for in such problems, is to be obtained from a careful study of the existing animals in each country, and then of the relations which the extinct forms bore to them. I have purposely endeavoured to avoid as much as possible the use of terms derived from European geology, save when speaking of European results, because I feel convinced that the basis of the classification which has hitherto been adopted for these geologically recent deposits in India, has been erroneous. To appeal to Europe for evidence of the geological age of our Indian deposits, is to appeal to witnesses who cannot know the facts, and must therefore give irrelevant or false evidence. Would an Australian geologist be justified in admitting his cave deposits to be secondary, because in Europe marsupial animals were found in secondary rocks; reversing the question, would an European geologist declare the deposits which hold these marsupial remains to be of recent age, because marsupial animals now existed in Australia? The only key to a knowledge of the true succession of Indian rocks is to be found in India, and too much caution cannot be insisted on, in attempting to adapt to this country laws of distribution of animal life derived from the investigation of other and distant lands.

As Falconer eloquently pointed out long since, it is in India, if anywhere, that we must hope to solve the great problem of the succession of life. Here, if anywhere, shall we find in these ancient alluvia of marvellous extent, some of those intermediate forms, all but totally wanting in Europe.

The year just closed, has witnessed very signal proof of the hearty desire of the Government of this country to disseminate an intelligent knowledge of its history and literature. At a cost, which to some few may appear enormous, but which is in reality scarcely commensurate with the vast interest of the enquiry, sanction has been given to the examination and actual repetition by exact and full-sized models of parts of the more interesting architectural remains of the country. For some time past, the Government of the Upper Provinces have been from year to year, at considerable cost, doing much for the preservation and renewal of the many glorious remains, which give such a magic interest to the great cities of those provinces. What student of the architecture of former dynasties, (and in what way can the genius of any distinct race be more satisfactorily studied than in its architectural remains) has recently visited Delhi or Agra, and has not felt grateful for the enlightened spirit in which the magnificence of their buildings has been preserved and renewed, unsightly obstructions removed, and the grandeur and gigantic nobleness of conception which mark these erections made patent to every visitor. And now the Government of India have gone further, and while carefully preserving these noble monuments of former civilization, have determined that their most striking beauties shall be repeated in Europe, for the admiration of every one who can admire gracefulness of outline, massiveness of design, and wondrous skill in execution. In addition to this, skilled enquirers have been deputed to investigate, measure, and describe, some of the more ancient and less known remains in various districts. Our own active member, Rajendralála Mitra, has but recently returned from Orissa, with a large mass of detailed information on the curious remains in that district, which we trust he will be enabled to make public soon. With great regret, we know that his visit to those malarious jungles has resulted in a very serious illness, which has prevented his being present among us this evening.

Lieut. Cole, R. E., who is also one of our members, has in a similar way been engaged in the examination of the highly interesting architectural remains of Cashmere. And we look with great interest for a more detailed and careful description of these very curious buildings from his pen. So curious and so different are they from any other type, that Cunningham classed them as belonging to a

new order of architecture to which he gave the name of Aryan. This, however, has, by nearly general consent, given place to the term 'Cashmere' order or style, as the former name conveyed an idea that the builders of these temples were of an Aryan race. I would hope that Mr. Cole's researches may be extended to the Punjab, where remains, in many respects similar to the Cashmere temples, are to be found, but with very distinctive peculiarities. During a brief visit to the Salt range in 1864, I had an opportunity of seeing several of these, and of making sketches of them. And I felt satisfied that they had been too hastily referred to the same type as the Cashmere buildings. With many things in common, they differ entirely in the character of the roof, which here assumes the form of a square truncated pyramid, with bulging or curved sides; a form which, I should think, indicates a distinct transition to the true Jaina forms. But we require much more detailed examination, before pronouncing definitely on the facts.

I would also refer to the most interesting and valuable papers of Mr. Ferguson on the tope of Umrawutti, near Bezware in the Madras Presidency, as an evidence of the great interest which Indian architectural remains are now exciting. Some few specimens from this very wonderful Buddhist erection are in the Society's collection, and the members can judge for themselves of the marvellous detail and beauty of the sculpture which adorned its walls.

More recently, the Government of India have, with great liberality, taken steps to secure the possession of a complete list, and also of as complete a library of Sanskrit works, existing at the present moment in India, as may be practicable. The Government have referred to your Society for advice and aid in this very important step, and the matter is now under the consideration of the Philological Committee. The Society cannot fail also to feel gratified at the entirely unsolicited acknowledgment of their long continued efforts to promote a knowledge of Oriental literature, which the resolution of the Governor-General in Council to place at the disposal of the Society, in furtherance of the publication of Sanskrit works of importance a sum of Rs. 3,000 per annum, in addition to the Oriental Publication Fund, already in the management of the Society, conveys. There is, I regret to say, a considerable difficulty in obtaining the aid of properly quali-

fied Sanskrit scholars to carry Sanskrit works through the press, and it would seem that the resolution to catalogue, and bring together a complete series of Sanskrit literature, has by no means been taken up too soon.

I would hope that, on completion of the proposed Catalogues of Sanskrit works, a similar step may be adopted with reference to the numerous Persian and Arabic works which exist scattered in the libraries of native Princes and gentlemen throughout the country.

In connection with Oriental studies, it is a source of gratification to hear from Bábu Rajendralála Mitra, who has acted as Secretary to the Fund, that from scholars in India, who appreciated the value of Bopp's contributions to comparative grammar, a very considerable sum has been remitted in aid of the Bopp Commemorative Fund.

I cannot conclude without expressing to you the obligations under which, in common with every member of the Society, I feel myself to your executive officers and Council. When we first came together, and had, with much anxiety, obtained a full knowledge of the heavy amount of liabilities that were hanging over the Society, it was seriously debated whether it would not be necessary to cease for a time the publication of your Journal, and thus, in fact, give up the only evidence we do offer to the outside world of our useful existence. Ruinous as we felt that this would be, we thought honesty demanded that our debts should be paid. If this misfortune has not fallen upon the Society,—if instead of ceasing to issue your Journal, we have been enabled to make the volume for the past year larger, and to bring it before you more punctually than in former years, you owe your thanks for this gratifying result to the devotion of your Secretaries; and above all, to the care with which the Finance Committee of your Council have guarded your resources. To Col. Gastrell, as your Treasurer, and to Dr. Partridge as a member of that Committee, we all owe a very hearty expression of our thanks for the assiduity and caution with which they watched over your interests. To the Council at large, I must be allowed to express my own thanks for the kindly support they have accorded to myself during the term of my office.

Allow me now to express my lasting obligation for the unmerited honour you conferred on myself by placing me in your chair. I am

painfully conscious of how inadequately I have been able to fulfil the duties of the important office of President. Of one half of the discussions brought before you, those bearing on Oriental literature, I most candidly confess my entire ignorance. And I cannot but think that the selection of some other, more permanently resident in Calcutta, and less harassed by pressing claims upon his time from other work than I am, would have been more beneficial to the Society's welfare. I can, however, assure you that none can be more truly desirous of the well-being of the Society, none more sincerely and thoroughly convinced that your success is interwoven with the progress of Science and truth in this country : and limited as has been the range of my own labours and little as I know, I have endeavoured to show, at least, that I *do* know the value of knowledge, and would desire to foster and aid in the acquisition of it. For the kindness with which my efforts have been received, I feel greatly indebted to the members of the Society. I trust our meetings may ever be distinguished by freedom of discussion and freedom of intercourse, by an unflinching expression of opinion, and an equally unflinching kindness of feeling towards those with whom we may differ. If in aught I have done well, so far I have done according to my wish. And I thank you for the additional proof you have this evening given, that my willingness and desire to promote your interests are not doubted, however I may have failed in my ability to accomplish that desire.

Ordinary Meeting.

The meeting then resolved into an ordinary monthly meeting.

Th. Oldham, Esq., LL. D., in the chair.

The minutes of the last meeting were read and confirmed.

The receipt of the following presentations was announced—

1. From Bábu Rajendralála Mitra, specimens of shells collected on the sea shore near Puri.

2. From Dr. Shekleton, a copy of Assay Tables of Indian and other coins.

3. From Baden Powell, Esq., a copy of Report on Panjab Products, Vol. I.

4. From the Superintendent G. T. Survey, two copies of Report on the operations of the Survey Department for 1867-68.

The following gentlemen duly proposed and seconded at the last meeting were elected ordinary members.

Dr. P. F. Bellew.

A. Cadell, Esq., C. S.

C. C. Adley, Esq.

The following gentlemen were announced as candidates for ballot at the next meeting of the Society.

Major Ross, proposed by Dr. J. Anderson, seconded by H. Blochmann, Esq.

The Rev. J. P. Ashton, proposed by Rev. J. Long, seconded by Dr. J. Anderson.

Thakur Giriprasad Sing, proposed by H. Blochmann, Esq., seconded by Dr. Stoliczka.

Fred. Drew, Esq., Jummoo, proposed by Dr. T. Oldham, seconded by Dr. F. Stoliczka.

Louis Schwendler, Esq., proposed by F. Schiller, Esq., seconded by Dr. F. Stoliczka.

J. Pickford, Esq., proposed by Bábu R. Mitra, seconded by Dr. T. Oldham.

Sirdar Attar Sing, Chief of Bhaddour, proposed by E. C. Bayley, Esq., seconded by Bábu R. Mitra.

T. Thomas, Esq., Barrister-at-law, Lucknow, proposed by H. Blochmann, Esq., seconded by Dr. F. Stoliczka.

Dr. Baxter, proposed by W. Swinhoe, Esq., seconded by Dr. Stoliczka.

Bábu Protapa Chundra Ghose, proposed by H. Blochmann, Esq., seconded Dr. F. Stoliczka.

The Hon'ble John Strachey, proposed by Col. R. Strachey, seconded by Col. Thuillier.

The following gentleman has intimated his desire to withdraw from the Society,—The Hon'ble C. P. Hobhouse.

The President remarked that as the evening was far advanced, he would suggest that the reading of the papers which had been advertised, and other communications sent to the Society, be postponed for the next meeting. This was generally accepted and the meeting broke up.

LIBRARY.

The following additions have been made to the Library since the last meeting.

Presentations.

. Names of Donors in capitals.

The Proceedings of the Royal Society, Vol. XVI. Nos. 104, 105,—THE ROYAL SOCIETY OF LONDON.

Proceedings of the Royal Institution of Great Britain, Vol. V., part III. No. 47,—THE ROYAL INSTITUTION.

Proceedings of the Zoological Society of London for 1868, January to June, and Index to the Proceedings from 1848—1860. Transactions of the Zoological Society of London, Vol. VI. parts 6 and 7,—THE ZOOLOGICAL SOCIETY.

Professional Papers on Indian Engineering, Vol. V. No. 21,—THE EDITOR.

The Calcutta Journal of Medicine, Nos. 9, 10 and 11,—THE EDITOR.
Rahasya Sandarbha, Vol. V. No. 49,—THE EDITOR.

Classified Catalogue of printed Tracts and Books in Singhalese,—THE COMPILER.

The Gospel of Matthew in Santhali,—THE REV. E. C. STEWART.
Santhali Vocabulary,—THE SAME.

Assay Tables of Indian and other coins by J. F. Shekleton, A. B., M. D.,—THE AUTHOR.

Monographie du genre *Cyathopoma* par W. T. Blanford,—THE AUTHOR.

Note sur les *Nicida* par W. T. Blanford,—THE AUTHOR.

Discours d'ouverture,—MONS. G. DE TASSY.

Selections from the Records of the Government of India, Foreign Department, No. LXVIII.—THE GOVERNMENT OF INDIA.

Selections from the Records of the Madras Government, No. IX.—THE SAME.

Selections from the Records of the Bombay Government, No. CVIII.—THE SAME.

Report on Public Instruction in Coorg for 1867-1868,—THE SAME.

Report on Public Instruction in Mysore for 1867-1868,—THE SAME.

Report on the past famines in the Bombay Presidency,—THE SAME.

Pharmacopœia of India by E. J. Waring, M. D.,—THE SAME.

Selections from the Calcutta Gazettes, Vol. IV,—THE SAME.

Annual Report on Meteorological Observations registered in the Panjab, 1867,—THE SAME.

Panjab Products, Vol I,—THE GOVERNMENT, NORTH WESTERN PROVINCES.

Report on Insects destructive to woods and forests by Mr. R. Thompson,—THE SAME.

Report on the Trade and Customs of British Burma for 1867-1868,—THE GOVERNMENT OF BENGAL.

Geographical and Statistical Report of Tânda, by Captain D. Macdonald,—THE SURVEYOR GENERAL OF INDIA.

Annual Report of the Revenue Survey Operations for the Lower Provinces for 1867-68,—THE SAME.

General Report of the Revenue Survey operations for the Upper Circle for 1867-68,—THE SAME.

General Report on the operations of the Great Trigonometrical Survey of India for 1867-68.

Purchase.

The Calcutta Review, Nos. 94 and 95.

The Edinburgh Review, No. 262.

Revue et Magasin de Zoologie, No. 10.

Revue Archéologique, Nos. 10 and 11.

Revue des Deux Mondes, 15th October and 1st November.

Journal des Savants, September and October.

Comptes Rendues, Nos. 12—17.

The Ibis, Vol. IV. No. 16.

The Annals and Magazine of Natural History, Vol. II. No. 11.

The American Journal of Science, No. 137.

Hewitson's Exotic Butterflies, pt. 68.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR FEBRUARY, 1869.

The General Monthly Meeting of the Asiatic Society of Bengal was held on Wednesday, the 3rd February, at 9 o'clock p. m.

T. Oldham, Esq., LL. D., President, in the chair.

The minutes of the last meeting were read and confirmed.

The following presentations were announced.

1. From Bábu Mádhavá Krishná Setha, a specimen of a fungus from the neighbourhood of Calcutta.
2. From Col. R. E. Oakes, a box of flint implements collected in the neighbourhood of Jubbulpore.

The following letter, addressed to Col. Gastrell, accompanied the donation.

“My attention was first drawn to these relics of past ages, by the late Lieut. Sweeney, of the Bombay Engineers who discovered numbers of them, lying about on the hills and high ground in and around Jubbulpore, and at a little distance below the surface.

“The geological formation of the Jubbulpore Basin has been examined by the Geological Survey of India, and I will, therefore, merely describe, as nearly as I can, the sites on which I have found the greater number of the specimens. They are limited to three or four spots.

“The first and the most prolific bed occurred on the top of the hill north-east of Jubbulpore, at present used as a sanitarium for the Jubbulpore European troops. The flints were scattered about in considerable numbers on the surface; I must have collected some hundreds from this site alone, many of which I afterwards discarded as mere fragments, and very imperfect. They all, however, bore dis-

tinct traces of having been worked by man. The specimens found here were principally the grooved cores and thin splinters. A second site was on the ridge which runs in a north-easterly direction from the above named hill; it is principally composed of limestone, hard and compact. I have failed to find any traces of fossils in the limestone, which I have frequently examined.

"A third site is on the high ground on the base of the granite hills, north and north-east of Jubbulpore. In this place, many good specimens were found, all splinters and grooved cores. On the flat topped hill at the back of the European infantry rifle range, many specimens were found, principally of the knives and chisels, if they may be so called; few if any of the cores were found here.

"On the high ground, west of the Nagpore road, about a mile and a half from the station, many chips are procurable. I have also found specimens in the Seonee district, notably on the high knolls met with on the plain around Lucknadow Rhas.

"Further, on a mound about a mile south-east of Seonee, on the Ruttughee road, and in other parts of the district on the surface soil, lying upon the Trap on the plateaux.

"Many of these implements appear to me precisely similar to some of the specimens in the collection of M. Boucher de Perthes, as illustrated in the diagrams of his most interesting work "*Antiquités Celtiques et Ante-diluviennes*." The specimens, therein figured, were all extracted from the drift beds in the vicinity of Abbeville, in the valley of the Somme.

"The account of their discovery and the probable uses of these implements are most ably discussed in the above named valuable work. I regret that I have only one specimen (an imperfect one) which I have retained, of the large axe, commonly known as Celt, of which several excellent specimens have been found in the Jubbulpore district, but all, as far as I know, in the country to the north of Jubbulpore. I have seen these specimens, and could procure drawings or copies in wood, if they would be considered of any value to the Society.

"It is a very remarkable circumstance that these flint implements are, with few exceptions, found lying in masses within a limited area by themselves, and not mixed up with the rough agates from which they have been manufactured. Agate beds are sometimes found near,

but distinctly separate, none of the chips as a rule being found in the rough beds, and but few of the rough agates intermixed with the chipped stones.

"Should this fact be further confirmed by the experience of other collectors, it will tend to indicate very conclusively that the manufactured flints were collected and massed for a purpose."

"Seonee, January 10th, 1869."

The President said, the cores and flakes submitted to the Society, were of precisely the same general character as others which had been more than once met before. One of the interesting facts noticed by Colonel Oakes was, the finding these chips in heaps by themselves, unmixed with the rough agates, out of which they had been formed, and on the other hand none of the chipped flakes were found among the rough agates. Facts of a similar kind had been noticed in Europe also. He (the President) had himself seen in the north of Ireland, where flint implements were commonly found, similar heaps composed of nothing but the chips and fragments of rough flints, with occasionally a half-finished arrow-head, or, some other implements in the heap. These had evidently been the seats of manufacture of these flint-implements; and what were now found were only the rude chips and fragments remaining after the production of the more useful and finished implements found out of these agates, and which had been removed for use.

Mr. W. Blanford said, that Colonel Oakes, had shewn him the localities whence the flakes and cores were derived near Jubbulpore, and had gone over the ground with him. He had since met with similar flakes and cores near Nagpore, as described to the Society in 1867. The quantity occurring near Jubbulpore was astonishing. In reply to a question from the President, Mr. Blanford added, that he had usually found such flakes to be abundant in small restricted localities, frequently on the tops of low rises, where no rolled agates occurred, and in such a manner as to leave it to be inferred that the spot where they were found, was a place used for the manufacture of agate flakes during probably a considerable period; it may perhaps have been the abode of a flake-maker. An instance which occurred in Abyssinia had already been mentioned by him (Mr. Blanford). Around a small granite hill, numerous such flakes of Obsidian were

met with, although none were noticed in the surrounding country, which was entirely composed of granitic rock, so that the Obsidian must have been brought from a distance. Mr. Blanford also mentioned his having found last year a core of black chert, perfectly similar to some of the Central India ones, close to Magdala in Abyssinia.

Col. R. Strachey and Dr. Stoliczka made some further observations in connection with the occurrence of the implements in the north of France and along the Danish coast.

The President said that another similar communication had been received, which may throw some light on the subject under discussion. The Secretary then read the following—

*Memorandum on the Cromlechs found in Coorg,** by Lieutenant R. E. Cole;—communicated through L. Bowring, Esq., by the Government of India.

1. The following is the result of further excavations made near Fraserpett. My first researches were made on some high ground, partly covered with bamboos and scrub jungle &c., situated to the right of the road leading to Mysore, and about half a mile from the bridge across the river Kaveri. There were about 500 Cromlechs, occupying a distance of nearly half a mile, showing that there had been a large settlement of the mysterious race of man (of pre-historic man at any rate, as regards our knowledge), regarding whom all our researches and conjectures have been as yet futile.

2. There were 17 of these ancient structures excavated and the dimensions were as follows :—

No.	Length.		Breadth.		Depth.	
	Feet.	Inch.	Feet.	Inch.	Feet.	Inch.
1,	11	3	6	9	3	7
2,	8	3	4	5	0	0
3,	7	0	4	6	0	0
4,	8	3	6	0	0	0

* This paper was accompanied by several coloured drawings, lithograms and a photogram. The former represent several of the Cromlechs, in shape resembling the one of which a figure was given in the Proceedings for June last. Others were drawings of pottery, in many respects also resembling those published in the Proceedings for August last year.

5,	9	0	5	0	0	0
6,	8	0	6	6	0	0
7,	6	3	4	0	4	3
8,	6	0	3	9	4	0
9,	7	10	3	4	0	0
10,	7	0	3	6	0	0
11,	6	0	4	0	0	0
12,	* { 7	2	2	6	0	0
	6	6	3	5		
13,	7	0	4	6	0	0
14,	7	2	4	8	0	0
15,	10	3	7	6	0	0
16,	8	0	5	8	0	0
17,	3	10	2	4	1	4

Some of these Cromlechs were distinctly visible, whilst others were only traceable by the circles of stones round them, the superincumbent slabs being about a foot or two below the surface of the ground, and often covered over by bamboo clumps and low jungle, shewing that they had not been disturbed by the hand of man for ages past.

3. Some were found without top or side-slabs ; but, in some cases, the granite of which these slabs consisted, was so far decomposed, that it crumbled to dust and could scarcely be traced in the soil. One had no side slabs, but had slabs at each end and at the bottom. Another had no top slab, but the sides and bottom slabs were perfect, and in one end-slab, facing the east, was the segmental aperture which formed the entrance or door, as described in my former reports. This Cromlech was situated within a circle of stones of 25 feet diameter. All the Cromlechs in this locality were within such circles, and some in concentric circles. Again in another the top consisted of 2 large slabs, each one foot thick.

4. The Rev. Mr. Richter, the Principal of the Government Central School, has kindly photographed one of the Cromlechs.† It is within a circle of 14 feet in diameter, consisting of rough unhewn boulders of granite, 3½ feet high, and 2 feet broad. The aperture is 1 foot 7 inches wide by 1 foot 2 inches deep. The top slab is almost on a level with

* Measurement of top slab only.

† Copies of this photograph accompanied the present memorandum.

the bottom of the boulders of rock around it. This fact would distinctly indicate that such a structure could not have been used as a residence, as it must have been flooded by each heavy shower of rain.

5. About a mile to the north of Fraserpett, on the road to Sommarpett, I found a number of Cromlechs ; but most of them had been tampered with, apparently by the wudders for the sake of the slabs. One was 8-9 feet long by $5\frac{1}{2}$ feet broad, and $3\frac{3}{4}$ feet deep. It was within a circle of rough stones of 47 feet in diameter. This is the largest circle I have observed in Coorg. Another was $7\frac{1}{2}$ feet long by 5 feet broad, and 4 feet 2 inches deep. Both of these had segmental apertures facing due east.

6. At Ramasawmi Kunné, about 5 miles to the north of Fraserpett, I found a number of these rude structures, and had four of them excavated. In all these Cromlechs I found similar remains of antique pottery, bones, and pieces of iron. Some of the urns are unique and really beautiful in shape. Mr. Richter has also photographed* groups of the urns, vases, &c. Lieutenant W. Freeth, Assistant Superintendent of the Revenue Survey in Coorg, has also taken drawings of these vessels, and kindly given a sketch-lithogram of them. In the lithograms, submitted with this memorandum, some of the vessels are those found in the Cromlechs situated beyond the bridge, others those which were found near Ramasawmi Kunné. Some of these deserve special notice. The smaller goglets are composed of beautiful black pottery highly glazed or polished. A large round pot with three small tubes, would clearly indicate, that the process of distillation was known to the original constructors of these mysterious structures, or, that these structures have been used by subsequent and different races.

The finding of such a vessel, so different in its use from the Cine-rary urns and other vessels generally met with, would again open the question as to whether all such structures were tombs, or whether some were used as residences. It can be said that food, &c., might have been placed for the use of the spirits of the dead ; is it, however, possible that a still was supplied to enable such a spirit (perhaps one of a known thirsty soul), to procure a further supply ; but this is to rush into the regions of fanciful imagination, and as aptly said by a late writer on the

* Copies of the photograms were also sent.

subject : "It is open to the mind to people times about which history is "absolutely silent with men of any race, speech, or social condition, "which it may think good. It is open to conceive, objects of whose "use or origin we have absolutely no record, as being brought into "being for any end, which it may think good."

7. Further from Ramasawmi Kunné, and about half way to Sommarpett, in the very heart of the jungle, I found a few more Cromlechs, and opposite to one, a fallen square pillar, which was covered with an inscription in some character, which neither I, nor any of my officials have been able to decipher as yet. The letters are much obliterated by the action of time; but some would look like old Canarese. I will try and obtain photograms, or impressions taken off the stone, and will submit them hereafter. The inscription is surmounted by an engraved cow and calf.

8. In one of the Cromlechs, in which fragments of bones were found, a portion of the human jaw with two molar teeth in fair condition, was found and forwarded through Mr. Bowring, C. S. I., Commissioner of Mysore and Coorg, to Dr. Oldham at Calcutta, for inspection and comparison. I would also submit a piece of crystal which was found in the Cromlechs at Virajpett, but which was laid and forgotten. It is very hard and slightly cuts glass.

9. One of the urns found in the Cromlechs at Fraserpett was full of paddy, the husk of which was in perfect preservation, whilst the grain itself had completely disappeared. In others I found rági.

10. Mr. H. F. Blanford has shewn in his interesting lecture on pre-historic man, that the pottery of the stone-age was rude in form and in material and, that having been moulded by hand, without the aid of the potter's wheel, it was of irregular form and unequal thickness; but the vessels found in the Cromlechs of Coorg are well, some beautifully, shaped and of equal thickness throughout, which would show that they are of a more modern period.

11. The most remarkable Cromlechs I have yet seen in Coorg, with the exception of the double-chambered structure at Virajpett, described in my former reports, are situated in the same direction as those last described, but nearer Sommarpett. There are only four constructed on the rocky summit of a hill, which commands a fine and extensive view all round. These Cromlechs have a circle of

stones round each, but stand out in high relief, and have never been covered with earth or stone. [In the centre of the lithogram, Mr. Freeth has given a sketch of these interesting structures, and I have also the pleasure of forwarding for submission to the Government, colored drawings of the group and of each separately executed by the same officer.]

12. These Cromlechs were quite empty and the largest, measured inside, is 7 feet three inches long, by 6 feet high and 5 feet wide. The superincumbent slab was 11 feet 8 inches long, by 8 feet wide. These Cromlechs were evidently not used as tombs, and I am strongly of opinion that they must have been altars. The sun was the most ancient universal object of idolatrous worship, and the moon also received the early veneration of mankind; and placed as these structures are, in high relief, on the summit of a rocky hill, they would appear fit places for those anniversary fires and sacrifices, in which the earlier races of man delighted.

13. It might be interesting and of use to trace the names by which these monuments of an unknown race and of pre-historic times are known in different parts of India. In Coorg they are called *Pandupárré*, or the stone of the *Pándus*, and also *Pundera mané* or house of the *Pándus*. These two words must not be confounded with each other. The *Pándus* are the descendants of the celebrated five brothers, whilst the *Pundarus* are a legendary pigmy race, who are popularly supposed to have occupied these rude structures. In the Malayalum language, which bears a strong affinity to the Coorg dialect, the term used is *Panduporre*, though such structures have not been found in the Malayalum country. The word *porre* means a small hut; in Tamil *póre* also means a large stone. In the Canarese language these antique structures are often called *Mandávára mané*, derived from the Sanscrit, and signifying the houses of the dead.

The President said that the jaw, alluded to by Lieut. Cole, unfortunately never came to hand. He hoped that it had not been lost in transmission by post, and that it may soon be recovered. The following letter has been received by him (the President) from Mr. Bowring, regarding that gentleman's recent visit to some of the places where numerous Cromlechs are situated.

“ I visited this morning a hill called Móri Betta in the Mólte village, of the Nirata Hóblí of the Yélusávira Shíné Teluk of Coorg, where there are a great many Pándava Kalla (stores), as the Coorgs call them. The hill in question is about three miles north of Somawárpét, and is of no great height, but covered with low jungle and black rocks. The Cromlechs, if one may so call the stone structures in question, are rather more than 50 in number, facing in various directions, and scattered about at distances of 5 or 10 yards from one another. The photograms which you have seen, give an excellent idea of them, but I may mention that the dislodged stones appear to have been sunk only 2 feet beneath the surface, so that it is improbable that by digging deep under ground, further discoveries would be made. The interiors may be 8 feet by 5, and all of the structures have a rear stone, pierced with a round hole, which would just admit a man's body. One of them, which was in slightly better preservation than the others, appeared to have been surrounded by two small verandahs, — only a yard wide, however, — and at the south two large stones had been erected which had been cut so as to form a rude arch. There were traces of a stone staircase as an approach to this building.

The Coorgs are absolutely ignorant of any past history attaching to these singular structures, but it must be remembered that their own annals do not reach further back than the time, when the first of the Haleri dynasty, who were Lingayuts of the Nugur Division of Mysore and not true Coorgs, began to rule the Province; 250 years ago. It is indeed probable that the Coorgs were themselves invaders and came from the Malabar side, as I imagine that their habits resemble those of the Nairs of that country. The aborigines were probably the low castes, who still form the mass of the population, over whom the true Coorgs rule in a paternally despotic fashion, which formerly was simple slavery.

It is impossible to form an accurate judgment whether the structures in question were dwelling-places or cemeteries. The people think they were the former, but there is not the slightest trace of smoke on the roofs, which would, I apprehend, have been the case, had they been lived in; on the other hand, no skeletons, or jars containing coloured ashes, have been found, such pots as have been discovered containing only earth. Some rági seed, various utensils, such

as I have sent you, and a few rusty implements have been met with. I have requested Captain Cole to get the structure which I have referred to excavated, and to report the result, but I have not much hope of further discoveries of interest being made, while the wuddurs, or stone-cutters, have done their best to demolish the buildings, and, I presume, abstract their contents."

A short discussion followed on the same subject, in which several members took part.

The President then exhibited on the part of Colonel R. Strachey an axe which, he (the President) said, possessed a great resemblance to similar implements found in Europe. The axe had a long curved and sharp edge, gradually attenuating behind into a kind of a straight handle, which has the edges flattened, so as to allow it to be easily used in the hand. The material from which the axe had been made, appeared to be bronze,* and if this was really the case, the implement would be of extreme interest; it would be the first example of a true bronze weapon of that kind having been found in India. The only remarkable thing is a regular serration, as if it had been made with a file, on one side of the sharp front edge. It would be very interesting to know where the axe was found and under what circumstances.

Col. Strachey stated, the only history he was able to give was, that the specimen was said to have been found somewhere near Jubbulpore, and was given to Mrs. Strachey when passing through that station.

The President thanked on the part of the meeting Colonel and Mrs. Strachey for the opportunity of exhibiting that interesting relic.

The following gentlemen duly proposed and seconded at the last meeting were balloted for and elected ordinary members.

Major W. A. Ross, R. A. (re-elected.)

The Rev. J. P. Ashton.

F. Drew, Esq.

L. Schwendler, Esq.

J. Pickford, Esq.

T. Thomas, Esq.

Sirdár Atlar Singh.

* Mr. Tween has since carefully analysed portions of this axe and shewed it to be bronze. Its composition is 86.7 parts of copper and 13.3 parts of tin in 100 parts.

Dr. J. B. Baxter.

Bábu Pratapachandra Ghosa, B. A.

The Hon. J. Strachey.

Thákura Giriprasáda Sing.

A letter from A. Anderson, Esq., Fyzabad, intimating his desire to withdraw from the Society, was laid on the table.

The Council reported—that they have sanctioned the publication, in the New Series of the Bibliotheca Indica, of an English translation of Sankara's Commentaries of the Vedánta Sutrá. The work is to be executed by the Rev. K. M. Banerjea.

Further—that the collection of the MSS. of the Ruba'iyá i 'Owar Khoyyam has been completed, and that the work is to be printed in the Bibliotheca Indica in one fasciculus.

The President stated, that the Council recommended, that His Excellency the Viceroy be solicited to become Patron of the Society. This office was vacant in consequence of the departure of Sir John Lawrence, who had held it. The usual course was that a deputation of the officers of the Society should wait upon His Excellency, and solicit his acceptance of the post—a course which the Council proposed to adopt on the present occasion.—Passed with acclamation.

The President also reported, that the Council recommends the following gentlemen to serve in the several Committees for the ensuing year. The names of the officers are not included in this list, they being *ex officio* members of all Committees.

COMMITTEES FOR 1869.

1.—*Finance.*

Dr. S. B. Partridge.

Col. H. Hyde.

H. F. Blanford, Esq.

2.—*Library.*

The Hon'ble J. B. Phear.

H. F. Blanford, Esq.

W. S. Atkinson, Esq.

Bábu Rajendralála Mitra.

Dr. J. Anderson.

H. B. Medlicott, Esq.

W. G. Wilson, Esq.

A. Pirie, Esq.

3.—*Philology.*

E. C. Bayley, Esq.
The Hon'ble J. B. Phear.
The Rev. J. Long.
C. H. Tawney, Esq.
Bábu Rajendralála Mitra.
Moulvi Abdullatif Khan Bahádur.
Bábu Yatindramohana Thakura.

4.—*Natural History [including Physical Science].*

Dr. J. Fayrer, C. S. I.
H. F. Blanford, Esq.
Dr. T. Anderson.
Dr. S. B. Partridge.
W. S. Atkinson, Esq.
Dr. J. Ewart.
Bábu Debendra Mullicka.
H. B. Medlicott, Esq.
Lieut.-Col. J. T. Walker.
V. Ball, Esq.
D. Waldie, Esq.
Dr. Mohendralála Sircara.
Dr. J. Anderson.

5.—*Coin.*

E. C. Bayley, Esq.
Bábu Rajendralála Mitra.
Col. H. Hyde.
Major F. W. Stubbs.

6.—*Ethnological.**Linguistic and Physical.*

Dr. J. Fayrer.
Bábu Rajendralála Mitra.
The Hon'ble W. Markby.
Dr. J. Anderson.
Dr. S. B. Partridge.
Dr. J. Ewart.
H. F. Blanford, Esq.

7.—*Committee of Papers.*

The Members of the Council.

The President said that he has much pleasure in laying before the meeting the report of the auditors, appointed at the last meeting, to audit the accounts of the Society for the past year. The accounts (see Appendix pp. xvii &c.) have been found correct, and the Society is under great obligation to Messrs. Stewart and Peterson, who had so energetically taken up the work entrusted to them. On the proposition of the chairman a vote of thanks was passed to Messrs. Stewart and Peterson.

The receipt of the following communication was announced—

1. Notes on a short trip into the Patkoi Range, by H. L. Jenkins, Esq.
2. Short Notes of a trip into the hills south of Sibsaur, by A. C. Peel, Esq.
3. Tabular statement of 30 years' rainfall by Bábu Gopináth Sen.
4. A copy of a Journey to Kashgar in 1858, by Captain Valikhannow, translated from the Russian by R. Michell, Esq., F. R. G. S.—From the Government of India, Foreign Department.

The following papers, some of which had been postponed from previous meetings, were then read.

I. *Descriptions of marine shells from Ceylon, &c.*; by Messrs. G. and H. Nevill—communicated by Dr. Stoliczka; (Abstract).

The species described in this paper are of very great interest; they are chiefly small shells which up to this time had perfectly escaped the notice of former observers and collectors in Ceylon. The *Prosobranchiate Mollusca* are represented by a species belonging to the family *Purpuridae*, several small species of *Trochidae* &c., the *Dicranobranchiate* division by species belonging to the genera *Fissurella*, *Emarginula*, *Macrochisma*, &c. The last forms are always considered to be the rarest shells, and conchological science is greatly indebted to the authors of this paper for their untiring zeal in especially elucidating these as yet little known molluscan forms of our Eastern seas. The fauna of Ceylon will thus receive further additions through the following new species.

Rapana bella, *Clanculus Ceylonicus*, *Euchelus Seychellarum*, *Gibbula Dupontiana*, *G. Blanfordiana*, *Gibb (?) subplicata*, *G. Stoliczkana*, *Tallorbis* (n. sub-g.) *roseola*, *Pisulina* (n. sub-g.) *Adamsiana*, *Emarginula papilionacea*, *Em. capuloides*, *Sub-emarginula Oldhami*.

ana, *Solarium impressum*, *Fissurella scrobiculata*, *Fiss. canalifera*, *Macrochisma scutiferum*. It is to be hoped that figures of all the species can be given to accompany the descriptions.

All the type-specimens described in the paper were exhibited at the meeting.

II. *Notes on the geology and physical features of the Jaintia hills*; by Captain H. H. Godwin-Austen, F. R. G. S.—communicated by Dr. Stoliczka. (Abstract.)

The geological formations, noticed in the present contribution, in general correspond with those described by the same author in his paper on the geology of a portion of the Khasi hills, (printed in the first number of part II, of the Journal, Asiatic Society, Bengal, for this year.) The oldest rocks exposed are metamorphics of great variety and extent; they are overlain by sandstones which most probably are of cretaceous age, and in some places contain seams of valuable coal. On these sandstones rest locally nummulitic limestones, sometimes overlain by a very fossiliferous ferruginous rock of still younger tertiary age. Some of these tertiary deposits appear to be the equivalents of the Sivaliks, so well known through their rich fauna of fossil Vertebrata. Special notice is also given of the Nummulitic coal occurring at Lakadong, which is believed to have been formerly worked. Captain Godwin-Austen expresses the hope, that further investigations may bring to light a much larger geographical distribution of the various coal beds.

In the Jaintia district proper granites, quartzitic and trap rocks are, however, of greater extent than the other formations. Among the physical features of the ranges are especially noticed the regular forms and equal heights of the various peaks, and the parallelism of the drainage lines.

Dr. Stoliczka further stated, that there is another interesting paper, by Captain Godwin-Austen, on the list for to-day's meeting; it treats on some new species of Indian *Diplommata*. Since the paper was sent in, the author, however, requested that it may be postponed, wishing to add some more species of the same genus, only very lately discovered in the Cachar hills. There was no more time to bring Captain Godwin-Austen's request before the Council, but the postponement will no doubt be granted, and he would, therefore, defer the reading of the paper.

With reference to the geology of the Jaintia hills, Col. Strachey asked, whether any of the fossils which have been found in the Nummulitic limestones of Assam and the Eastern Provinces of Bengal, were identical with those of the Western Himalaya, as for instance near Subathoo.

Dr. Stoliczka said that of those species of fossils which he had the opportunity to examine from Assam, there were about 80 per cent. of them identical with those found in similar beds in the North-west Himalayas, the Salt-range and Sind. In fact there is a remarkable similarity to be noticed in the fossils of the nummulitic series from India through Persia, Asia Minor, Transylvania up to the Carpathian Mountains. A large number of the same species of *Nummulites*, the same *Conoclypus* and others are met with throughout. There are, however, above the Nummulities in Assam, more recent sandstone beds which contain a perfectly different marine fauna, probably representing similar beds which appear to be more extensively developed in the adjoining province of Burma.

III. *Contributions to Indian Malacology*, No. X.—Descriptions of new species of CYCLOPHORIDÆ, and of the genera *Ennea* and *Streptaxis* from the hills of Southern and South-western India; by W. T. Blandford, Esq., F. G. S. &c., (Abstract).

The new species described are entirely from the hills of the South-western and Southern portion of the Indian Peninsula, and the majority belong to the operculated land shells. The greater number have been discovered by Captain Beddome, to whom is due almost all that is known of the Mollusca, inhabiting the hill ranges south of the Pulneys. Three species are from the collections made by Rev. Fairbank on the Pulney Hills, from amongst which I have already described two species of *Diplommatinæ*, both belonging to the group peculiar to the Indian Peninsula.

The first 3 shells belong to a new subgenus of *Cyclophorus* which I propose to call *Ditropis*, from two strong keels which occur in all the species. Some species have more, but all have these two keels, one at the periphery, the other basal, separated by a smooth space. This is of course an unimportant character by itself, though it appears to be constant. The other peculiar characteristics of the type are the vitreous structure and the thick operculum with rough free edges to the whorls externally. The forms appear quite isolated, and although

I doubt, if the characters justify a generic separation from *Cyclophorus*, they certainly shew that the shells belong to a very well marked and peculiar group. All are from the hills on the borders of Travancore.

The next two species appear to me to differ so much from all known forms, that I see no other plan of classifying them, than to found a new genus. They are small turbinate shells with a thick hairy epidermis with strong crenulation inside the mouth. The operculum is very similar to that of the Bornean and Siamese genus *Opisthoporus*, the shell of which, however, is very different, and I am inclined to consider the similarity in the operculum accidental. The peculiarity of the operculum consists in its being hollow, not solid, formed of two thin disks united by a spiral lamina coiled at right angles to their planes, the spaces between the whorls of the lamina being hollow. From this character I propose to call the genus *Mychopoma*. It approaches very closely to *Cyathopoma*, and perhaps should rank as a subgenus, but the structure of the operculum is different. This opercular structure, though, has not the importance, amongst the CYCLOPHORIDÆ at all events, which some naturalists are inclined to attribute to it. Of the two species discovered, one is from the Pulney Hills, the other from the frontiers of Travancore.

The next shell is a new *Spiraculum*, the first met with in Southern India. Four or five species are known though some of them are undescribed, from the countries east of the Bay of Bengal, and a few years since I described one discovered by Captain Beddome near Vizagapatam. The present discovery, one of Rev. Fairbank's, shews the existence of another genus with decided Malay affinities in the hill ranges of Southern India.

A few years ago when Sir Emerson Tennant wrote his very interesting work on Ceylon, one of his principal arguments for the distinction of the fauna from that of India was the absence in India of several genera, then believed to be peculiar to Ceylon. Amongst these were *Catantulus* and *Tunalia*. Captain Beddome has now discovered no less than 3 species of *Catantulus* in the hills south of the Nilghiris. One has been described by Dr. Pfeiffer from Captain Beddome's specimens, two of which found their way in Mr. Cuming's rich collection, now in the British Museum; a second from the ranges on the frontier of Travancore I now describe, and I have heard from Captain Beddome

of his discovery of a 3rd species. Rev. Fairbank has re-discovered the peculiar *Tanalia stomatodon* of Mr. Benson in the Pulney hills, and the operculum shews that the species really belongs to the genus to which it was, with some doubt, assigned by Mr. Benson. *Aulopoma* amongst the operculated land-shells, and *Acavus* amongst the *Helices* are the only Ceylonese forms still not known to be represented in Southern India.

Captain Beddome has also discovered a third Indian species of *Opisthostoma* in the Wynaad, and this very curious form is much larger than the two previously discovered, and even than the singular Lubuan *O. Crespigni*, H. Ad. The other shells described are a species of *Ennea* allied to *E. Perrieri*, Pfr., from the Pulney hills, and a new and curious *Streptaxis* from Canara.

IV. *Notes on the Burmese route from Assam to the Hookeong-valley*, by H. L. Jenkins, Esq.,—communicated, through H. Goode-nough, Esq., by the President. (With a map).

Wishing to satisfy myself as to the practicability of opening out the old *Burmese route from Assam into Upper Burmah, I started on the fifteenth of last month from Makoom, the last outpost in that direction, and travelled along the old path as far as lake Nonyang, on the south side of that Patkoi range. The following notes of the trip may perhaps prove interesting to persons connected with Assam.

15th December.—Started from Makoom in the morning. There is no road eastwards or southwards beyond this point, except the natural bed of the Dehing river. It is necessary to cross the river at every bend. This is not difficult at this time of the year. There is not more than two or three feet of water at the outside. Encamped at night at the mouth of the Terap river.

16th.—Continued to travel up the bed of the Dehing and camped at night at a small Singfoo village, a short distance below the Kerrem-pani, an affluent of the No Dehing river.

17th.—Reached the new Beesa of the maps. Bunka, the most influential chief of the Assam Singfoos lives here. He accompanied me across the Patkoi.

18th.—Camped at night at the mouth of the Dion-pani, another affluent of the No Dehing.

* See Wilcox's Survey Maps.

19th.—Continued up the Dehing and camped at night at the mouth of the Namchik river.

20th.—Above the confluence of the Dehing and Namchik rivers, the main river is called Namroop. This day we travelled up the Namroop, and camped a little below Sunkaph Purbut.

21st.—Continued up the Namroop, which here runs through a narrow gorge between Sunkaph Boom* and Miting-koo. Camped at night at the mouth of a small stream called Namgoi.

22nd.—As I found much time was lost in dragging my two small canoes over the rapids, I resolved to leave them behind, and loading my baggage on my elephants marched up the stream of the Namroop, till I reached the Namphook village, which consists of eight Singfoo houses.

23rd.—As this was the last village I should see, it was necessary to lay in a stock of provisions. This day was spent in bargaining for rice and in arranging with the able-bodied men of the village to accompany me as guides. I had some difficulty in arranging with these men. It was necessary that they should consent to act as porters if required, and Singfoos have a particular objection to carrying loads for other persons.

24th.—Started from Namphook village, course due south across the Namroop over some hilly land, covered with forest, two hundred feet higher than the bed of the river. After a two hours' walk, we came again on to the Namroop and waded up its stream till the evening, leaving the bed of the stream now and then at the bends of the river, in order to keep as straight a course as possible. Both banks of the river were covered with a forest of immense timber trees, and underneath the larger trees was a rank growth of jungle through which we could not have made our way, except for the tracks of wild elephants. Along these tracks, when it was necessary to leave the bed of the river, we could walk, and with a little cutting of the creeping and climbing plants, the ponies could be made to follow very well, but the tracks were neither high enough nor broad enough to admit of elephants with their loads passing along them, so I sent back my elephants to the village taking on as little baggage as possible, partly carried by the Singfoos and partly by the ponies. The Namroop was for the

* In Singfoo, *boom* is a mountain, *koo* a hill.

most part shallow, but occasionally we came on deep pools of very clear water. The quantity of fish* in these pools is astonishing. The Singfoos speared a great number during the daytime. Camped at night on the banks of the Namroop.

25th.—Continued our march up the Namroop, much in the same manner as on the previous day. Striking occasionally into the jungle to avoid going out of our course which was still south, until we reached the mouth of a small stream, called Nambong, when we left the Namroop and waded up the Nambong to the mouth of a still smaller stream. Up this latter stream, the Nunkee, we travelled till evening and encamped on its banks. The country during the early part of the day was undulating and gradually became hilly. The principal rock was a soft blue slate. Occasionally a thin seam of sandstone appeared. The strata were faulty and in some places very much disturbed.

26th.—Continued to wade up the Nunkee with slow uncertain steps, for the bed of this stream is composed of large round slippery boulders. After travelling about an hour up the stream, we left it and commenced the ascent of the Patkoi, by a narrow and not very well marked path. The ascent was not steep, the ponies had no difficulty except when we came to a fallen tree or some other obstruction caused by the living jungle. The path was very nearly straight, there was hardly any attempt to lessen its steepness by altering the direction. As we ascended, the forest trees seemed to improve in size and the undergrowth of jungle to be less thick. Of the timber trees common to Assam, I particularly noticed the Sam† and the Mekahi. These trees average at least twelve feet in girth, and the latter grows to the height of sixty to seventy feet without a branch. On the summit I found a good deep soil covered with bamboos, canes, and forest trees growing luxuriantly, but not so rankly as in the plains below. Many of the plants and trees were common to the plains, others were new to me, particularly a cane bearing an edible fruit, which I do not recollect having seen before. I found the Tea plant abundant on both sides, but more plentifully on the southern than on the northern slope.

* If this route is opened out, the immense quantity of fish in all these rivers may prove of economical importance. The most numerous are *Cyprinus* (Labeo) *dyocheilus*, *Barbus macrocephalus* and *Barbus hexagonolepis*.

† *Artocarpus chaplasha*.

The Singfoos gathered the leaves and commenced to prepare tea after their own fashion. They told me that tea was to be found in the jungle near any spot where there had formerly been a Shan or Singfoo settlement.

As far as I could see, there is a depression in the Patkoi range at this point, and it is to be supposed that the Burmese would not have selected this for their main route to Assam, unless it had possessed considerable advantages over every other path.

The present path rises probably from 2,500 to 3,000 feet, but to cross the range with a road, it would certainly not be necessary to rise more than 2,000 feet.

On the Assam side I could see little but the tops of the hills below me, on account of a heavy fog, but southward the air was clear and I had a very fine view of the country. The most striking object on the Burma side is a large open plain dotted with a few trees, some eighteen or twenty miles long by seven or eight broad. At the western end of this plain, and almost immediately beneath the Patkoi is an open sheet of water, perhaps three miles long and exceeding a mile in breadth called Nonyang* by the Singfoos. The lake stretches nearly from east to west. It contains a triangular shaped island near its south-east extremity where its waters are drained off by a small stream called Loglai which running southwards falls into the Sooroong, and this latter river falls into the Denai or Kyundween of the maps. The Kyundween, it is well known, falls into the Irrawady, or Milee, as the Singfoos call the great river below Ava.

After examining the lake and satisfying myself that its waters did run southwards through the Loglai, I returned to the top of the Patkoi and encamped there. I was anxious if possible to get a view of the Assam side, so as to gain some idea of the best line of road to Makoom.

The nearest of the Hookeong villages are on the banks of the Sooroong, lying under a hill called Gadak which was pointed out to me and which appeared to be about twenty-five miles south of Nonyang, as the crow flies. In the evening two Singfoos came into our camp from these Sooroong villages, and I learnt with surprise that they had slept two nights on the road since they left their homes.

* *Non*, a lake; *yang*, the name of a Shan chief, who held this post for the Burmese.

They had travelled up the bed of the Sooroong and then up the Loglai. The devious course of these streams, and the difficulty of wading over shingle and boulders, must account for the slow progress made.

The villages on the Sooroong, they informed me, did not number more than fifteen houses and that very little rice would be procurable. From their villages to the Denai is a two days' march through forest. They described the country on each bank of the Denai as well cultivated and thickly populated. From the Patkoi to the Denai, the path did not lie over any steep hills.

The Singfoos who accompanied me, had only agreed to take me as far as Nonyang, and I failed to induce them to go further south with me. It was their busiest time of the year. The only crop they grow was being reaped, and they could not afford to lose any more time in securing it.

It will be seen that the only difficulties to be encountered on the road between Assam and Hookeong are caused by the denseness of the jungle. The intervening country is a wilderness consisting of a forest of many useful timber trees of immense size. Below the larger trees is a tangled mass of smaller plants, most of them climbers twisting about the larger trees and wrestling with each other in an intense struggle for life. The only paths by which man can move are the natural beds of rivers or mountain streams. It would be impossible to leave these channels, except for the tracks made in the jungle by herds of wild elephants. Progress along such paths is very slow, and the distance to be travelled very much increased, owing to the necessity of often following the windings of the streams.

The Burmese government in former days took care that there should be a village, or rather a military settlement, every twelve or fifteen miles along the route, and it was the business of the people, living at these stations, to cut the jungle occasionally, and to remove fallen trees and other obstructions from the path. The route has now fallen almost entirely into disuse on account of the posts having been one by one deserted since August last. Only three trading parties have come this way from Hookeong into Assam. Traders now usually travel by a more circuitous and very difficult path through the Naga hills, passing from one Naga village to another, so as to

obtain supplies. It is to be wondered at that the Namroop route should be used at all by traders, considering that each man must carry fifteen pounds weight of rice for his own consumption on the journey, besides his load of goods; but the Moolooks, Singfoos and Dooanniahs are not hill men, and to avoid climbing the steep scarps which the Patkoi presents at every other point, they form depôts of provisions along this route much in the same manner that the later Arctic explorers have adopted in their expeditions on the ice. They carry forward rice and bury it at convenient intervals along the road, and then return for their loads. What is wanted is about ninety miles of road from Makoom to the Kyundween. There is a sufficient amount of Naga and Dooanniah labour to be obtained in the neighbourhood for the construction of an ordinary "cutcha" road, and the cost of it would not exceed one thousand Rupees per mile. Such a road would enable the trader from Hookeong to reach Makoom in one-third the number of marches that the journey now occupies, and it would render an examination of the country easy, and thus pave the way for a more scientifically constructed road, or a Railway.

On my return I fell in with a party of eight men returning to Hookeong. They had brought over amber ornaments, ivory and daos for sale. Two of the party were taking back about thirty yards each of the poorest description of calico* and another had some sulphur. The rest had invested in opium.

These men assured me that there was more than one well used trade route through Hookeong, and through the Sepahee Singfoo country, to Tali and other places in Western China. The question of opening up China to India is of so great importance, that it is not likely to be lost sight of, now that it has once attracted attention, but the magnitude of this subject should not make us pass over the value of improving the communication between the Burhampooter and the Kyundween. The great want of Assam is population to cultivate the soil. We can obtain labourers from Bengal, but we have also to great extent to import their food and this in a notoriously fertile country.†

* I am not sure about the name of this cloth. It is composed chiefly of starch with a small portion of cotton to give toughness to the fabric. It is never seen in any civilised place, but the Manchester manufacturers know well how to suit savage customers who must have cheap clothing, and do not wash their clothes.

† The ground is cropped year after year and no manure is used, yet the yield is on the average about 45 cwt., of paddy to the acre.

That Bengalis have not settled to any extent in the province, is no doubt a good deal owing to the illiberal policy of Government with respect to the selling or leaving of wastelands, but it is also in part owing to the fact that the climate does not suit most Bengalis on their first arrival in the province. If Assam is to be re-populated, it will be from the East. That the existing population has been mainly derived from this quarter, is shewn by the language, customs, and physical appearance of the people. At the present time, the Phakial Dooannah and Singfoo population is increased annually to a small extent by the influx of emigrants from Hookeong and the Shan states. That people do not come in greater numbers is, I believe, entirely owing to the hardships that persons, reared in a cultivated country and unaccustomed to the jungles, must encounter on the road. It is said that numbers of persons who leave Hookeong for Assam never arrive here. They lose the path and wandering about in the jungles starve to death, or are killed by wild animals. I do not know what difficulties there would be in obtaining a right of way from the Burmese government, but through considerably more than half the distance the road would lie in British territory, and the opening up of a road only as far as the watershed of the Patkoi would prove of no small value to the province.

Debrooghur, 12th January, 1869.

The Chairman said, Mr. Jenkins' notes just read, were very interesting and valuable, as bearing on the geography of a part of a country, almost entirely unknown. Even so lately as last year, Mr. Cooper, whose adventurous journey in China they had all been interested in, when speaking of the routes leading to Assam, &c., from the western part of China, notices this Patkoi range, as being something very difficult to cross, and as being still a great barrier to be overcome, supposing the intervening country had been passed. Mr. Jenkins now shows that in a trip of only a few days, and without any real difficulty or danger, and without a greater ascent than (by estimation) 3,000 feet, he had been able to cross the same Patkoi range, and to get down on the Burmese or Chinese slope. Mr. Jenkins also thinks that if a path or road were opened out, it would not be necessary to go over greater elevation, than probably 2,000 feet. The question of the source from which a removal of the population of Assam is to be sought, is a not unimportant one; and it does

seem probable, that considerable immigration from Burma might be looked for, if an easy means of communication were opened out. Mr. Goodenough, who had been good enough to forward to him Mr. Jenkins' notes, had also sent him a sketch map, on which he had marked Mr. Jenkins' route; and on which he had also shewn the routes of Wilcox, of Griffiths, of the recent expedition under Capt. Sladen to Momein, of the French expedition which had recently completed its course at Shanghai; and also the furthest point to West, to which Capt. Blakiston had reached. This general map would give an idea of the relative position of the areas explored by these expeditions, and would also shew the large area of country, the geography of which was still very little known. It was scarcely creditable to the British Government that this should be so; and every little addition to our knowledge of the geography of this area was very acceptable. He thought they owed their best thanks to Mr. Jenkins and Mr. Goodenough, for the communication of these notes.

The reading of Mr. Peel's paper *on the hill tribes south of Sibsau-gor*, was postponed for the next meeting.

Col. Strachey then spoke of a remarkable stroke of lightning during the recent storm; a house having been struck, apparently from the side, on the corner opposite to the one the conductor was placed at. This was probably owing to the moisture with which the walls of the house were saturated. The fact does not, however, speak very favorably for the use of our lightning conductors.

The Chairman announced the new election of members and the meeting separated.

LIBRARY.

The following additions were made to the Library, since the meeting held in January.

Purchase.

The Annals and Magazine of Natural History, Vol. II. Nos. 1 and 2.

The Calcutta Review, January, 1869.

The Numismatic Chronicle, 1868, Part III.

Revue linguistique, 2nd tome, fasc. 2nd.

Exchange.

The Athenæum, October and November, 1868.



Photocopyographed at the Surveyor General's Office, Calcutta February 1877

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MARCH, 1869.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday the 3rd instant, at 9 o'clock P. M.

E. C. Bayley, Esq., in the chair.

The minutes of the last meeting were read and confirmed.

The following presentation was announced—

1. From the Government of India, Home Department, 24 bronze medals, executed at the Calcutta Mint.

The following gentlemen are candidates for ballot at the next meeting—

E. D. Lockwood, Esq., C. S., proposed by Lieut. R. C. Beavan, seconded by Dr. J. Anderson.

M. L. Ferrar, Esq., C. S., proposed by Mr. H. Blochmann, seconded by Dr. F. Stoliczka.

Moulvie Kabeeruddeen Ahmad, proposed by Mr. H. Blochmann, seconded by Dr. F. Stoliczka.

Dr. F. Day, Madras M. S., proposed by Dr. J. Anderson, seconded by Mr. H. Blochmann.

Rev. C. Haberlin, Chota-Nagpore, proposed by Mr. H. Blochmann, seconded by Dr. F. Stoliczka.

Col. H. Hopkinson's desire to withdraw from the Society was recorded.

The President said he had much pleasure to announce that His Excellency Earl Mayo has been pleased to accept the office of Patron of the Society.

The following papers were read—

I.—*Short notes of a trip into the hills south of Sibsangor*; by A. C. PEEL, Esq.—*communicated through Dr. J. ANDERSON, by Dr. STOLICZKA.* (Abstract.)

Mr. Peel in company with Mr. Wagentreiber, Junior, accepting an invitation from the Rajah of Banparas, started on their trip on the 30th of May last year. The usual difficulties of mountain travelling were soon felt, the road passing to a great extent through jungle, generally along streams; and the path soon became so narrow that not more than one man could pass on it at the time. The amount of waste land was also very large, scarcely 1 per cent. of the area appearing to have ever been under cultivation, though in most places the land was well situated. The rock was mostly sandstone, but many quartz pebbles were to be seen in the bed of streams.

Wild elephants appeared numerous. They are caught in traps, these being deep excavations in the ground, wider below than above, supplied at the bottom with numerous bamboo spears, and covered over with branches of trees and grass. These traps are generally constructed on narrow passages of the road. Wild pigs and various deer were observed in large numbers. Very remarkable was also the quantity of fish in all the streams, but unfortunately the Nagas sometimes use poison to catch them, and thus destroy often more than required to satisfy their wants.

The party of travellers was met by the Rajah's brother, who soon was joined by the Hoondekai and the Lowdong. The latter is the name of an official who travels in the name and the authority of the Rajah, the former designates an official who represents the Rajah at home. After a march of the first few miles the road became so difficult, that the elephants had to be sent back; and the journey was prosecuted on foot. The village Lowghong was soon reached, and with the permission of the Khoonsai, or the head man of the village, the party visited the same. Only a very small portion of the land was under cultivation and the same ground is seldom cultivated for more than two successive years, a fresh piece of forest being generally every two years burnt down for the purpose of cultivating the *than*. The village was partially surrounded by a ditch, 6 feet wide by 6 feet deep, and fenced by bamboo sticks; besides this there were watch-houses and other kind of fortifica-

tions. A custom seems to prevail here to expose the bodies of the dead on raised bamboo stands, roofed in with Jaroo palm leaves. Each village has its Jack trees (*Artocarpus integrifolius*) with which its whole history is usually connected, some of the trees appearing to be from 300 to 400 years old. From the highest point of the village a magnificent view into the surrounding hilly country could be obtained, especially in the districts occupied by the Hooroo Mootoons and the Bor Mootoons; those of the Neyowloong Nagas were also distinctly discernible.

From Lowghong the party returned to the place where they left the Khoonsai of the village, and proceeded westward, until they reached the river Sisa, where they camped for the night. Next morning the 31st May, the journey was continued, first in a westerly and afterwards in an almost due northerly direction towards Banpara. The path was at first very steep and up a ferny cleft; it, however, soon became more level, passing round the shoulders and along the ridges of a series of small hills, tolerably level in the main and at sufficient height to give a good view. At about half way to Banpara the party came to a place that could be easily defended; it lies on a narrow ridge with a precipice on each side and not more than four or five yards across. The obstruction was commanded by a rise in the ground beyond it, though it could not be seen from any distance. Further on the road was for a short distance cut on the face of a precipice, being only a few inches wide.

Soon after the party came to the village Banpara. It was a similarly built place as Lowghong, being extremely irregular and broken up, the houses all thatched with Jaroo leaves; the jack trees were also large and numerous. The party was conducted to the Rajah's house which was by far the largest in the Chang, and had to be climbed up on a notched tree-stem. The Rajah, a man of about 40 or 45, was seated on a sort of huge stool, about 8 feet high by 5 feet broad, and a similar bench was prepared opposite for the party. Many officials of the Rajah and other visitors of course assembled to witness the ceremony of presentation. The Rajah spoke at first a few words regarding the country and his people, but the confusion, characterised by every one wishing to have a voice in the assembly, soon became general. The party was then requested to perform some miracles,

which were supplied by firing off revolvers, striking matches, &c. A magnet also seemed to yield a great deal of amusement.

The house of the Rajah was then inspected, it was estimated to be about 200 feet long by 50 feet broad, and about 50 feet high. Like most of the other houses it was built two-thirds on a rock, and about one-third continued out level by a platform, supported on posts; this part was the audience end. Inside it was divided by three longitudinal rows of jack-tree posts, one down the centre, and one on each side. After the greater number of the Khoonsais and Hoondekais had left, the Rajah was prepared to receive his presents, though he appeared to have been rather dissatisfied at not getting one of the guns, or revolvers. A few of the houses in the village were afterwards also visited, but they all resembled that of the Rajah, built only on a much smaller scale.

The Moorroong, or skull house, was next inspected. There were about 350 skulls there, half of them being hung up by a string and the other half lying in a heap on the ground. No lower jaws were to be seen, nor any other parts of the skeletons. The hands and feet are always cut off with the head, when a man is killed, each conferring a different kind of Ak, or decoration. It was curious, says Mr. Peel, to be face to face with the great cause of the isolation of the tribes and the constant warfare. It is, namely, a custom of great antiquity, that, all social position depends on *tattooing*, and this decoration can only be obtained by bringing in the head of an enemy. Unless a man can succeed in doing this, he cannot take part in counsels of state, &c. One who gets the head of an enemy secures for himself the Ak on the face. Another who gets the hands and feet, when a man of the same party gets different marks accordingly, either on the hands, or on the legs. The worst of this kind of warfare is, that women and children are as often killed as men, and without any compunction. Besides the skulls, the Moorroong also contains the big drum which is cut out from a tree stem. It is beaten by short heavy sticks and can be heard at a distance of from six to seven miles. Slavery seems to be a common custom among these people, the captives of enemies being generally retained as slaves.

The return journey was performed along the same road, and it did not occupy more than ten hours, the whole distance being about 24 miles.

Mr. Peel suggests that potatoes and other vegetables could be introduced into those hills with great success.

The Banpara tribe consists of four villages, and the mean of several Assamese and Naga estimates of the number of houses given, is as follows—

Banpara,	300 houses.
Lowghong,	200 „
Oonoo,	350 „
Nokorong,	50 „
<hr/>	
Total, ...	900
<hr/>	

Mr. Peel is, however, inclined to think that 600 houses will be nearer the mark, and that there are about 1200 able-bodied men. The Joboka-Nagas have 5 villages with about 1200 houses and about 2000 able-bodied men; the Mootoons occupy 4 villages. Mr. Peel further notices the various weapons used by the Banparas; the spears, axes and bows are of the usual form used by the Naga inhabitants of these hills. No trade seems to exist between these hill tribes and the inhabitants of the plains. With the exception of a very small quantity of sat, and a few other things exchanged for rice, almost nothing is brought down.

In conclusion Mr. Peel gives a short account of the occurrence of several seams of coal in the lower hills south of Sibsauger. Some of the coal appears to be of very good quality, judging from the conchoidal and glittering fracture of the samples obtained. A short vocabulary of the Naga language is also added.

The paper is accompanied by a series of beautiful coloured sketches, illustrative of the character, habits and customs of the people, and of the general character of the country.

II.—*Further notes on Chand's poems*; by F. S. Growse, M. A., C. S.

The President read the greater part of this paper, which will be shortly published in the first number of the Philological Part of the Journal.

Mr. Blochmann said that the paper just now read by the President was the second paper on Chand, with which Mr. Growse had favoured the Society. Mr. Growse conferred a benefit on Oriental scholars by

giving translations of extracts, as Hindí poetry was extremely difficult. He had lately had a letter on this subject from Professor Brockhaus of Leipzig, who expressed the same wish as Professor Garcin de Tassy had done in his last 'Discours,' that the Society should print translations from Hindí, because very few scholars in Europe were able to understand Hindí poetry, though there might be many who spoke Hindustaní with fluency.

He therefore hoped Mr. Growse would continue his contributions.

III.—*Notes on the Arabic and Persian Editions of the Bibliotheca Indica*, by MR. H. BLOCHMANN.—No. I. *Balaoní and the Religious Views of Emperor Akbar*. (Abstract).

Mr. Blochmann said :—

This paper is the first of a series of Essays on the works printed by the Society in its *Bibliotheca Indica*. The essays are intended to collect all the information which we possess regarding the authors of our editions, their writings, style, &c., and to give translations of interesting extracts, accompanied by philological notes.

The work which I have reviewed in this paper, is the most remarkable history of Akbar's reign, by Mullá 'Abdulqádir ibn i Mulúk Sháh of Badáon. This history is written in a spirit hostile to Akbar and his ministers, and was therefore concealed by the author and his children during Akbar's lifetime. This book was, however, discovered towards the end of Jahángir's reign. It is valuable for the biographical notices of learned men and poets of Akbar's age, as also for the detailed information which it gives on Akbar's religion.

I shall now read an abstract containing a few summary remarks on *Akbar's Religion*.

The religious opinions held by men of historical importance, present many interesting features. They concern the inner life of the hero, and disclose the motives of his deeds. Hence biographers find it a profitable task to dwell on this subject, especially when it is possible to trace the circumstances which led their hero to modify or reject the religious views in which he had grown up.

That the greatest Muhammadan emperor, which India has produced, should have openly abjured the Islám, and established a new church, is a remarkable fact, and would scarcely be credited, if we had not

the testimony of three historical works, whose authors widely differ in character and opinions.

These three works are the *Akbarnámah* by Abulfazl, Akbar's Prime Minister, and especially its last volume, which is best known under the name of *A'in i Akbari*; secondly, the *Muntakhab ul Tawárikh*, by Abdul Qádir of Badáon, who held an office at Akbar's court; and thirdly, the *Dabistán ul Mazdhib*, a work written about sixty years after Akbar's death by an unknown Muhammadan writer of strong Pársi tendencies.

We may also add the valuable testimony of Portuguese Missionaries whom Akbar called from Goa, as Rodólpho Aquaviva, Antonio de Monserrato, and Francisco Enriques, &c., of whom the first is also mentioned by Abulfazl under the name of *Páulri Rudalf*—not *Radi*; as bad MSS. spell his name.

From the abovementioned three works, we gather the following leading facts regarding the *Divine Faith*, which name Akbar gave his new religion.

Akbar's secular and religious education had been entirely neglected, owing to political circumstances. Being surrounded by Hindu servants, when young, and married to Hindu princesses, when scarcely of age, he came into close contact with Hindu forms of worship, which were openly practised in the harem of his father and in his own. Thus a strong attachment to Hinduism grew up in Akbar's heart. To judge from Badáoni's remarks, the influence of the Hindu portion of Akbar's harem, which contained above 5000 women, was very great, and was no doubt the principal reason for Akbar's apostacy from the Islám.

Akbar's early wars, from 1556, when he was in his fourteenth year, to 1574, did not allow him sufficient leisure to take up religious questions, or to supply the deficiencies of his secular education. But Akbar felt the want. A change, however, took place towards the end of 1574, or 982 A. H., the eighteenth year of his reign, and the thirty-first of his life. "No political opponent was left on the field," and the years from 1574 to 1581, which Akbar spent at Fath-púr Sikrî, were comparatively peaceful. Immediately before 1575, Akbar entertained, and openly expressed, doubts regarding the correctness of several points of the Muhammadan religion. He also

shewed a slight dislike to the 'Ulamás and the Mullás, the learned and the lawyers, whom he thought somewhat conceited, whilst he manifested a sincere regard for really pious men and Qúfis, especially for such as lived in voluntary poverty. Of the tenets of Hinduism, he was particularly attached to the doctrine of the transmigration of the soul. According to the testimony of his enemies, he then possessed a sincere heart, and was anxious to discuss certain tenets of the Islám. For this reason he invited the learned and the lawyers of various sects to meet him every Thursday* evening. These meetings however, produced the very opposite of what Akbar wished. The 'Ulamás, in the very beginning, quarrelled about precedence and rank; the discussions were carried on in a bitter spirit, and even in violation of all rules of *decorum*. As both Shi'ahs and Sunnis were present, every question was made a party cry, and the difference of their opinions regarding some Islamitic laws was most remarkable. Akbar, instead of profiting from the 'Ulamás, learned daily more to despise them; and judging the Islám by his conception of the character of the 'Ulamás, he ceased to look upon the religion of the prophet as the only true religion, and, shortly after, assigned to it a very inferior rank among the religions of the world.

Another proof of the emperor's sincerity is the zeal which he shewed in collecting information regarding other religious systems. He spent whole nights in conversation with free-thinking Qúfis; he called Pársí priests from Gujrát, and Roman Catholic Missionaries from Goa, whilst acute Brahmins led him into the mysteries of Hindu philosophy. After making himself acquainted with the tenets of these religious systems, Akbar came to the conclusion that there were in every sect sensible men, and that it was, therefore, improbable that truth should be confined to one single religion, especially to a religion like the Islám, which had not existed a thousand years.

This conclusion led to two important results:—*first*, it convinced Akbar of the necessity of perfect religious toleration; and *secondly*, it induced him to think that truth might be found by selecting, from among the tenets of all religions, those doctrines which recommended themselves to his calm understanding.

* Not Friday evenings, as given in Elphinstone's History. *Shab i jum'ah*, or Hind. *jum'ah kí ráh*, is Thursday evening.

In his opinion of the Islám, Akbar was also influenced by several of his courtiers, as Hakím Abulfath of Gilán, who came to Fathpúr Síkrí in 1575, Mulla Muhammad of Yazd, and Mir Sharíf of Amul, who arrived in 1576. They were Persian Shí'ahs, the two former very bigoted, the third a man of no principles. Of Brahmins, three are generally mentioned—Purukhotam, Débí, and Bír Bar. Among the Qúfis, Akbar esteemed most Shaikh Tájuddín of Dihlí, upon whom people looked as the greatest Qúfí then living, though his speculations often wandered from the path of religion. Of Hindustání Sunnis, the most important were Shaikh Mubárik of Nágor, and his sons Faizí, the second greatest poet of Hindustan, and Abulfazl, Akbar's famous minister. They were waiting to see to what religion Akbar would turn; and in the meantime successfully tried everything in their power to increase Akbar's dislike to the 'Ulamás and the Islám in general. Abulfazl, who had been introduced at Court in the beginning of 1574, owed his success to his argumentative skill, and was immediately fixed upon by Akbar as the man who could teach the proud Mullás a lesson of humility.

Akbar's dislike of the learned and the lawyers, and their constant defeats at the Thursday meetings, lessened considerably the authority of the Chief Justices of the Empire, and might have produced serious difficulties, had not Shaikh Mubárik, by a clever stroke, transferred the interpretation of the law from the judges to the emperor himself. The Shaikh prepared a legal document, for which he got the signatures of Shaikh Abdulmabí, çadr of the realm, of Qází Jaláluddín, the Qází-lquzát of the empire, of Çadr Jahán, Akbar's crown-lawyer, and of Makhdúmulmulk and Ghází Khán, the leaders of the 'Ulamás. In this document they declared that, in consequence of the serious differences between the several expounders of Muhammadan law, after due deliberation, they had found it necessary, to ask the emperor to assume the office of *Mujtahid*, or infallible authority of the age, and they had agreed among themselves to refer to him all differences in interpretation, and would hold themselves bound by his decisions for ever.

It is impossible to say whether this curious document was of any practical importance. Akbar publicly assumed the office, and very soon after considered himself the spiritual king of the nation. If it

was Shaikh Mubárik, who had first put the idea of *Mujtahidship* into Akbar's heart, it was his son, Abulfazl, who convinced the emperor of the divine right of kings of ruling as God's representatives on earth, and of being the leaders of the nation in political and spiritual matters. 'Royalty,' says Abulfazl, 'is a light emanating from God, and communicated by God to kings independent of other men. This light teaches kings to understand the spirit of the age, and to regard the performance of their duty as an act of divine worship. Men will find peace in the love of the king, and all sectarian differences will vanish. Let the nation rally round Akbar, and they shall escape the perplexities of this life by worshipping God in obeying the king.'

Several circumstances confirmed Akbar in his plan of guiding the people in spiritual matters. The Islám approached the Millenium, and all looked with anxiety to the year 1000 of the Hijrah, or A. D. 1590-91. Rumours were widely spread of the appearance of *Imám Mahdí*, who, according to the belief, was to appear in the latter days, when the faithful were few on earth. His appearance is immediately to be followed by the advent of Christ, who is to re-establish the Islám on a firm basis. The news of the discovery of the New World, or the *jahán i nau*, had spread from Goa and the Portuguese Settlements over India and Persia, and stirred up the old fashioned notions of men of science. A great comet which was visible in India and Persia during 1577, filled the minds of all with great fear. All agreed that the Islam had lost its lustre; everywhere heretical notions spread, chiefly through Persian adventurers, whom the conquest by the Turks of the north of Persia had driven to the Shí'itic kings of the Dak'hin, or the Sunnis of Bukhárá, and at last to the Hinduizing court at Fathpúr Síkrí; and the decrease of faith on earth made people the more inclined to expect a great religious change.

Akbar's courtiers eagerly seized the opportunity, and pointed to the emperor as the restorer of all things.

One of the first consequences of the above-mentioned document was, that Akbar denied the doctrine of inspiration, the miracles of the prophet, and a future life in as far as it differed from transmigration. The formula, 'There is no God, but God, and Muhammad is his prophet', was, in 1579, openly changed to 'There is no God but God, and Akbar is God's representative on earth.' But as this

formula of the new creed gave much offence, it was at first restricted to the palace. In the same year, the *jazyah*, or tax which Muhammadan kings are enjoined by the Qorán to levy on all infidels, was abolished, after it had been temporarily revived in 1575. A large number also of 'Ulamás were exiled, or deprived of their *jághrs* (*Siyurgháls*) or sold as slaves, or, according to Badáoní, exchanged for Qandahár horses.

In 1580, Akbar appears more distinctly as the head of a new creed. The first order which he issued, defined the limits of obedience of his disciples. They were required to be ready to sacrifice on his account four things, *viz.*, their property, their life, their personal honour, their old belief.

In 1582, the era of the Hijrah was discontinued. Akbar likewise enforced the *sijdah*, or prostration, which the Muhammadan law looks upon as belonging to God, and not to man; and though this order also gave at first much offence, the courtiers got gradually accustomed to it, especially when the offensive word *sijdah* was changed to *zamínbos*, or kissing the ground. Even Badáoní performed it. The sale of wine was allowed, and a moderate drinking of wine was approved of. Playing at dice also was allowed. The use of beef was forbidden at court. The courtiers were ordered to shave off their beards. Written formulæ of confession came into use, which intending members handed over Abulfazl, who now was the Mujtahid of the Divine Faith, as Akbar was God's representative on earth. The confession papers read as follows: 'I, such a one, the son of such a one, declare that I have freely and cheerfully renounced the Islám, in all its phases, whether broad or high, which I have witnessed in my parents, and I hereby join the religion of Sháh Akbar, to whom I am willing to sacrifice property and life, honor and belief.'

Several ablutions commanded by the Muhammadan law were abolished. Pigs and dogs were declared ceremonially pure. Disciples were forbidden to make feasts in honor of a dead person; they were enjoined to prepare a great dinner for the poor during their lifetime. The flesh of the tiger and the wild boar was declared lawful. Marriage with first cousins or still nearer relations was interdicted, because the offspring of such marriages was, as a rule, weakly. No young man was to marry before the age of sixteen, and no girl before fourteen. The

wearing of silk apparel at the time of prayer was permitted. The prayers of the Islám, the fast of the Ramazán, and the pilgrimage to Makka were interdicted. A new era, called the Divine Era, was established, which commenced from Akbar's accession. The months of the year were made Solar, and the old Pársí names of the months were revived. All feasts of the Pársí calendar were introduced. The study of Arabic was ordered to be discontinued, and the reading of the Qorán and Muhammadan law was prohibited. Philosophy, History, Arithmetic and Geometry, Literature and Astronomy were to form the subjects of education. The life of the prophet was openly criticized, and the courtiers vied with each other in relating damaging stories about him, which Akbar received as so many presents made to him. Thus they said, the prophet had openly lived as a highway robber, and plundered the caravans of the tribe of Qurraish, to which he belonged; he had married fourteen wives, mostly widows, and allowed the faithful only four; he had claimed the right of possessing any married woman, whom he liked. The Shi'ahs at the same time reviled the first three caliphs, which they look upon as meritorious.

The frequent repetition of the formula, 'Alláhu Akbar' was introduced as a religious exercise. This formula had been used as far back as 1575, on coins, in the commencement of grants, farmáns; and as a heading in books, letters, &c. It recommended itself to Akbar for its ambiguity; for it may mean, 'God is great,' or 'Akbar is God.' Faizí, the court poet, openly acknowledged Akbar to be God. Some of his poems are very clear on this point. Thus he says in a rubá'í:—

"If you wish to know the right path, as I now know it,
Remember that, without the Sháh, you cannot know it.
Mere prostration is of little use,
Know Akbar, and you will know God."

Mullá Sherí also, whose poems contain satirical remarks on the New Creed, alludes to a possible apotheosis. He says in a qagídah:—

"This year the Sháh has been raised to the dignity of a prophet,
Next year, if God's will be done, he will be made a god."

In the same year the courtiers urged Akbar to use the sword, in order to propagate his new faith, and referred to the success of the Qafawí kings of Persia, who had firmly established the Shi'itic form of

the Islám by means of the sword. But Akbar was too wise to attempt this mode of conversion, though he reduced many an old Sunní family to distress by plundering their mosques, or withdrawing their grants, or exiling them.

The *Azán*, or call to prayer, was discontinued at court, and the word *Muhammad* was forbidden to be used in names. Many courtiers changed their names. Translations from Sanscrit, which had first been commenced in 1573, were eagerly pushed on. The *At'harban*, *Ramáyan*, *Mahábhárat*, *Lílawatí*, and the History of Kashmír, were translated into Persian.

In 1583, the killing of animals on Sundays was interdicted, this day being sacred to the Sun, as also during the first eighteen days of the month of Farwardín (February—March), the first month of Akbar's year, the whole month of *Abán* (October), in which Akbar was born, and several other days, in order to please the Hindus. This order, according to Abulfazl and Badáoní, was extended over the whole empire. Akbar himself abstained from meat for more than half the number of days in the year, and increased the fast days (*çáfiyánah*) from year to year, with the view of gradually giving up meat altogether. Rules of worship for the Divine Faith were issued. Prayers were to be addressed to the Sun in the morning, at noon, at sunset, and at midnight. Sun-worship had been openly practised at court since 1579, whilst Akbar, from his early youth, had taken part in the *hom*, a kind of fire-worship practised by the Hindu women of the harem. During 1579, some Pársís had come from Nausárí in Gujrát, and a fire temple had been built in Fathpúr Sikrí, which was placed under the care of Abulfazl. A Pársí priest of the name of Ardsher, whom Akbar at great expense had brought from Persia, instructed the emperor in the old rites of the Pársís. To this Pársí we also owe the preservation of many Zand words in the greatest Persian Dictionary of India. In 1580, the order had been given that all courtiers should rise, when the candles were brought into the halls of the Palace. In 1583, one thousand and one Sanscrit names of the sun were collected and the reading of these names was ordered as a means of spiritual blessings. Akbar said them every morning after sunrise, assisted by a Brahmin, and then showed himself to the multitudes that daily crowded round the palace

and prostrated themselves on his appearance. The time of the four prayers was announced by bells and gongs, and the imperial band played hymns, a large number of which Akbar had himself composed. The emperor also appeared in public with the mark which Hindus put on the forehead.

The mosques being now useless, were changed into store-rooms, and into houses for Hindu *chaukidárs*. The cemeteries within the towns were sequestered, as tending to give offence to the Hindus. Several eating-houses were erected for poor Hindus and Muhammadans, and another for Jogís, who promised Akbar that he should live three or four times as long as ordinary men. The Brahmins persuaded the emperor, that he was an incarnated deity, and said that he only played with the people of the world by delaying to assume his real form. They brought at the same time proofs from antique looking manuscripts, containing prophecies regarding a great king who would honour cows and Brahmins, and the courtiers brought predictions of the man of the Millenium, which they said they had found among the poems of Nâçir-i-Khusrau, a free-thinking Persian poet of the sixth century.

In 1585, the conversions to the Divine Faith were numerous. In 1587, Akbar ordered, that his disciples should only marry one wife, except in cases of barrenness. Widows were allowed to marry again. Disciples, on meeting each other, should not use old salutations as *salâm*, *taslâm*, *bandagi*, &c., but one should say, 'Alláhu Akbar,' and the other reply, 'Jalla Jalálulu' (great is his glory). This was to remind people of God and of Akbar, whose full name was Jaláluddín Akbar. Hindu judges were also appointed to hear all cases between Hindus. People should be buried with their feet placed towards the west, and the courtiers commenced even to sleep with their feet towards the west, a position which every Muhammadan in India considers highly improper, as Makkah lies west of India. In the same year the study of Arabic was prohibited throughout the empire. In 1590, the meat of buffaloes, sheep, horses and camels was forbidden. Hindu women should not be burnt together with their dead husbands, except they did so freely; but soon after Suttee was again permitted without restriction. Circumcision was forbidden before the age of twelve, and boys were then to decide for themselves. No member of the

Divine Faith was to eat or drink with butchers, fishermen, and bird-catchers, on pain of having his hand cut off.

In 1593, Akbar proclaimed perfect toleration, and advised all those to return to their old religion who, from pressure, had embraced Islám.

Abulfazl, in the *Áin*, gives an account of the ceremony of initiation of new members. The initiation took place on Sundays, at noon. The candidate approached the emperor with his turban in his hand. He then put his head on the feet of the emperor. After this, Akbar lifted him up, replaced the turban on his head, and gave him his likeness, round which the following words were written :—

The pure aim and the pure sight never err.

The emperor's likeness, which was called *shu'at*, or *aim*, was worn by members on their turbans.

As Akbar ultimately believed that he was god, his courtiers were quick enough in supplying the miracles. Abulfazl had the intention of writing a book on Akbar's miracles. Akbar is said to have spoken when he was young, as Christ did, according to the Qorán and the spurious gospel of Christ's Childhood. On one occasion, a wild leopard had fallen into a pit; Akbar took out the animal himself, when it suddenly became as tame as a dog and followed him. On another occasion, a faqír had cut off a piece of his tongue, and after throwing it at the threshold of the palace, sat down on the road, convinced that Akbar would be informed by God of his condition, and heal his tongue. Before it was evening, his tongue was healed. "On such occasions," says Abulfazl, "the eyes of many were opened." But in another passage of the *Áin*, Abulfazl says very clearly that Akbar was obliged to pretend to possess miraculous powers, because the vulgar would have them, but that both Akbar and he himself secretly smiled at the simplicity of the people. It is certain that sick people continually brought cups of water to the emperor, requesting him to breathe upon the water. Such water healed all diseases.

From the Roman Catholic Missionaries, Akbar accepted crucifixes and Madonnas; but they confess that their preaching made no impression on Akbar, who would not allow any one to interfere with his prayers to the sun and the fire. They looked upon him as an idolater. To please them, Akbar in 1579 allowed his second son Murád to take

a few lessons in Christianity, 'by way of auspiciousness,' and the young prince, instead of saying in the commencement of his lesson the Muhammadan formula, 'In the name of God the Clement and Merciful,' was taught to say—

Ai nám tu Jesus o Kiristo,

(O thou whose names are Jesus and Christ!)

Akbar's disciples were chiefly Muhammadans. With the exception of Bír Bar, who was a man of profligate habits, the name of no Hindu member is mentioned, either by Abulfazl or Badáoní. There may have been a few Hindus, because Badáoní mentions that Akbar promoted Hindus on becoming members of the Divine Faith, though he did so rarely in the case of Muhammadans. The old Rájah Bhagawán Dás, Rájah Todar Mall, and Rájah Mán Singh remained staunch, though Akbar tried hard to convert them. Of the Muhammadan members of the Divine Faith, Badáoní says: "They behaved like Hindus converted to the Islám." The following were members:—

1. Abulfazl.
2. Faizí, his brother, Akbar's court-poet.
3. Shaikh Mubárik, of Nágor, their father.
4. Ja'far Beg A'raf Khán, of Qazwín, a historian and poet.
5. Qásim i Káhlí, a poet.
6. Abduggamad, Akbar's court-painter; also a poet.
7. A'zam Khán Kokah, Akbar's foster brother, after his return from Makkah.
8. Mullá Sháh Muhammad of Sháhábád, a historian.
9. Qúffí Ahmad.
- 10 to 12. Qadr Jahán, the crown-lawyer, and his two sons.
13. Mír Sharíf of Amul, Akbar's apostle for Bengal.
14. Sultán Khwájah, a qadr.
15. Mírzá Jání, chief of T'hat'hah.
16. Taqí of Shustar, a poet and commander of two hundred.
17. Shaikhzadah Gosálah of Banáras.
18. Bír Bar.

From the year 1593, when the law of perfect toleration was promulgated, our information regarding the Divine Faith gradually ceases. Badáoní's History ends with 1595, and in the next year the greater part of Abulfazl's Aín was completed.

With the death of the emperor in 1605, the Divine Faith died out. Akbar, relying solely on his influence and example, had established no priesthood, and appointed no proper person for propagating his faith. If we except the influence which his spirit of toleration exerted, the masses remained passive. Zealous members, as Mir Sharíf of Amul, took again to sophistry, as Jahángír did not trouble himself about any religion. The new Emperor retained Akbar's Solar Era, and shews in the phraseology of his memoirs much reverence to solar worship. But during his reign, the spirit of toleration soon changed to indifference, and gradually died out, when a reaction in favour of bigotry and persecution set in under Aurangzeb. But people still talked of the Divine Faith in 1643, when the author of the Dabistán collected his notes on Akbar's religion.

IV.—*Notes from Assaloo, North Cachar, on the Great Earthquake of January 10th, 1869; by Captain GODWIN-AUSTEN, F. R. G. S., Surveyor, Topographical Survey of India,—communicated by Dr. STOLIUKA.*

[Received 25th February, 1869—Read 3rd March, 1869.]

I have been led to put together these few notes, taken here during the late period of seismic disturbance (still in action), owing to the great interest-taken in such phenomena by every one, and more especially by those with any taste or knowledge of geology, and consequent acquaintance with those terrible convulsions, which in past epochs laid waste and altered the whole face of this globe, and left it in its present form to us. At no time are such past changes brought more vividly to the mind of man, than when viewing the passage of such mighty earth-waves, as have lately flowed under our feet, giving to the crust of solid strata an ominous plasticity. To watch the progress of such mighty efforts for 60 seconds only! terrible is the scene, and thankful may we be, in these days, that they seldom in their full force last longer, or perhaps to put it in other words, that the intervals of time between great convulsions are so enormous. The imagination palls before a serious disturbance of say only a quarter of an hour's continuance.

The earthquake here, though so violent, burst upon us without the slightest warning, a very unusual occurrence, as a rumbling more

or less loud is generally heard a few seconds before. In nearly all earthquakes, I have myself felt, such has been the case, and nowhere are such sounds heard with greater distinctness, than when on the summit of a high peak in the midst of a mountainous country, where all the world is in perfect quiet around. The low rumble is then heard for a considerable time before the earth below receives the shock. As many persons believe, and are of opinion that seismic disturbance is connected with atmospheric phenomena, noticeable long before the former force is exerted, I shall in this paper be particular,—though it may appear to some, adding unnecessarily to its length—and allude to the afternoon of the day in question, the 10th January, 1869.

The day, like 3 or 4 previous ones, had been rather hazy, not at all unusual in these hills at this time of year. The wind about 3 p. m. rose gradually up to about 4-30, blew gustly and cold. It must be remembered by those unacquainted with this locality, that the height is 3,000 feet above sea level, and near the base of a range with peaks rising up to 6,000. There was certainly nothing unusual or peculiar about the appearance of either the sky or the weather; these can have but little connection with forces acting so far below the earth's surface. That the action of an earthquake affects the atmosphere and temperature is almost certain, and I can imagine, that electrical and magnetic forces would be greatly agitated, after it has taken place, or rather during its continuance. There was one thing I did notice, and it is remarkable: a few seconds before the earthquake took place, wanting to make out a Trigonometrical mark on a hill-range some 20 miles distant, I had got out my telescope for the purpose, but it was so hazy that I gave up the hope of seeing even the outline of the ridge. Immediately after the earthquake, on looking in the same direction again, I was surprised at the sudden clearness that had taken place in the air, the ridge I had been endeavouring to scan, was sharply defined against the sky, and the whole of the western horizon was shewing clear.

The earthquake was ushered in by one or two long waves of motion, these I estimate from the time noted by the chronometer before the shock was quite over; in about 20 seconds they were succeeded by others much higher and following in rapid succession, and this was the time of greatest agitation of the surface, followed by great quiet rolling

or heaving, without any jarring motion; it was, however, impossible to tell without the aid of an instrument when the motion ceased, but all, save tremor, had disappeared in about $2\frac{1}{2}$ minutes. Yet there was certainly instability in the ground nearly the whole of the interval, 10 minutes, between this and the second well-defined shock. The horizontal undulating motion, was decidedly combined with another force, a kind of jerking from side to side; the surface not only rose and fell, but its parts seemed to shift about each in segments. The position of our camp here is on the principal northern spur thrown off by the well known and conspicuous peak of Mahadeo, 5,751 feet; this is on the line of the North Cachar Hills as well as on the principal line of elevation; the whole mass being here tilted up and dipping over southward some 40° — 50° . In fact Assaloo lies on the northern flexure of the great uniclinal that runs thence towards the west, marked conspicuously by the Jatinga and Kayeng valleys, and ultimately with the same great feature at the base of the Cherra Poonjee Hills and into the Garo Hills. It marks the great bend and break in the stratified rocks, when this mountain system was first upheaved. The North face of Mahadeo peak, clothed with magnificent forest growth, presented during the earthquake a strange wild sight, it appeared as if swept by a mighty wind, and the large trees in the foreground were seen swaying with the passing waves, from side to side, with great violence; one large one came down with a crash, and another the roots of which had been much loosened fell the next day. There was a confused din from the ground below, mingled with the noise caused by the surging of the trees, this last sound I heard above that in the camp. Most individuals sat down, and it was with the greatest difficulty, that I and one or two others, who remained standing, could keep on our legs. The scene was most awe-inspiring, and the feeling instilled "what may happen next?"

As might be expected, very great difference of opinion existed among persons in camp as to the direction whence the shock came and proceeded, some even stating the very reverse of the true direction. There is very little doubt that the direction was from west to east, the noise and motion in the trees certainly subsided and passed off to the east. A helitroper with 2 men, on the top of

Mahadeo, whence the view is most commanding over the sea of hills in Manipur, tells me that he could see the Mountain Peaks nearer at hand and on the East heaving about, and that the noise of falling rock was very loud, and continued long after the earth had quieted down with him. The effects upon these hills are very great; ravines choked with rock and debris; and one party of my men out-poling, found the body of a fine stag, that had been killed by the falling rocks when standing by the water-course.

On the Diyung, its effect seems to have been very severe; the high steep banks of recent clays and sand gave way in many places, falling into the river, the ground along the valley was much bent and the houses, structures of poles and matting were in many instances thrown over.

On the peak of Sherfaisip (a trigonometrical station) $26\frac{1}{2}$ miles almost due west of this place another heliotrope of this survey was stationed on the 10th; this peak is also like Mahadeo, situated on the North Cachar range, and is one of its culminating points, 5,612 feet. This man's account, is most interesting. He was on the peak by himself, sitting at the station mark with his heliotrope, facing east ready in case he was required to shew to Mahadeo; all was still, and he was likely to hear and notice any peculiar sound. He says that about 15 or 20 minutes before the shock, he heard the sound of a distant cannon (*tope* was the word used), as if fired some 30 or 40 miles distant. Before the shock came on, he heard the rumbling coming from the east, and when he felt it, he caught hold of the heliotrope, but that the motion was so great, he was thrown backwards. He distinctly says the motion passed away towards Marangksi peak, situated W. N. W. from his station.

Here we have, it is most interesting to find, two well selected points 26 miles apart, situated nearly due east and west of each other; at the first the waves were travelling eastward, at the second westward, this places the divergence of the forces between the two. How far this line would extend to the northward and southward, we have, or rather I have, no means of ascertaining with exactness, but it must resolve itself into a line of initial rupture, the intensity diminishing on either side. If my supposition, and what I shall endeavour to shew be correct, that the initial force exerted by this

earthquake lies upon a definable line, and not upon a centre, and that the waves of motion imparted to the earth's crust travelled away on both sides at right angles to that line of dislocation (if we may call it one,) it is not to be expected that such a rupture would be confined to a straight line, it would be more or less divergent at different points affected by rock masses below the surface; it might even bifurcate at any point on its course, and the effect on the surface might greatly diminish for many miles, and again shew with great severity. It must be, however, expected, that near the line, and particularly at the point where the disturbance is excessive, the direction would be very various, and the motion more like that of a chopping sea; or the undulations of the surface might merely rise and fall vertically, with but very little horizontal motion to any particular point of the compass.

From all the accounts that have reached me from distant quarters, —and I have but very few details as yet to work on,—Silchar seems to have felt its force more than any other place. I read in the *Englishman* that Nowgong suffered much, while Gowhatty in a much less degree. Again, a correspondent in Chittagong who appears to have been in a very favorable position for observation of what took place, states that the waves were travelling east with slight northerly direction; this would place the motion at right angles to a line south of Cachar to the west of his position. The direction noted by M. Lafont in Calcutta, was an east and west one, not from a central spot, say Cachar, but from a line drawn south-south westerly from that place into Tipperah Hills. It will be interesting to discover the direction of the earth-waves at Gowhatty and Nowgong.

At the junction of the Diyung and Kopoli they were travelling eastward and the shock was very severe indeed; in the Khasi Hills from the N. Eastward;* in the Garo Hills† from N. E. to S. W.; at Golaghat‡ it was from the Naga Hills *i. e.* the south-west; at Lukhimpoor§ from S. W. In these few instances, that I can now quote, the directions are not divergent from a centre, but from a line or curve. Looking at a map of this part of India, it must be at once

* On Lat. 25-40, Long. 92-45 from the East.

† *Englishman* of January 25th, 1869.

‡ *Englishman*

§ *Englishman*, January 27th, 1869.

apparent, how peculiarly Silchar is situated with respect to the neighbouring hill ranges. We find the N. Cachar Hills running east and west on its north, the low hills of the district itself, and those near the sources of Barak and Eerung, almost due north and south (or with their strike) on its eastern side. A closer acquaintance with the country on the north and at the base of the hills shews the great unclinal flexure that exists there, while in the gorges, where the greater rivers from the interior find an exit, we see the magnitude and almost incomprehensible displacement of strata, east and west strikes altering to north and south in apparent inextricable confusion.

I will now return to what I have before brought to notice, *viz.*, that on a point somewhere intermediate between Sherfaisip and Mahadeo peaks of the North Cachar range of hills, the earth-waves travelled outwards east and west. On looking at a sketch of the ground, I was struck with the coincidence, that almost midway between the two peaks lies the remarkable gorge of the Jatinga, cutting diagonally through the strike of the outer mountain system. This gorge marks a great dislocation, and such a feature would as it were point to weak lines on the earth's crust, where when the subterranean forces are exerted, they will again be felt with greater severity on the surface, and spread away on either side. Almost immediately opposite the gorge of the Jatinga lies Silchar and the area that has suffered most. The position with reference to the hills around, points to one of all others, where crushing and grinding together of the rocks would result on any motion being communicated from below to it and those neighbouring hill masses, and would result in upheaval of some spots and depression of others. It would be compressed, causing water with sand or mud to be forced up through the lines of bedding in the strata, and through the alluvium to the surface, a phenomenon apparently noticed all over the more level country.

I have not myself been in, and examined the Zilahs near Cachar, but I refer my readers to the Report of Mr. Medlicott *on the coal of Assam, with geological notes on the adjoining districts*.* Pages 46,

* Memoirs Geol. Survey of India.

47 and 48 can be read now with much interest; the crushing of the rocks near Silchar is prominently noticed; the dome-like shape of Katigunah hill and its anomalous composition, probably owes its origin to some long past convulsions of this area. In fact from Silchar skirting the hills including the country near Sylhet for many miles to the west, it would appear as if local displacement by upheaval has played a considerable part in recent geological times towards shaping the present lines of the surface, and particularly will account for the detached hills of highly inclined strata, capped and often quite hidden with unstratified conglomerate and gravel, to be seen in many places. But this is entering on matter that would require much local observation and knowledge.

Returning to the N. Cachar Range near Longitude $92^{\circ} 50'$ it is equally interesting and remarkable, to find on the north, several deep gorges through the mass of but slightly inclined Tertiary sandstones and shales, that finally unite and form the Kopili river. This line of the Kopili also marks a great geological feature, namely, the up-throw of the Nummulitic limestone which to the east bends over with all the super-imposed strata, and takes an easterly dip, and is consequently not seen again on the Diyung or other deep valleys still further east. On this line of upheaval of the limestone we find perennial hot springs, with very high temperature close to the Kopoli. Approaching nearer the valley of the Kopoli, I have the evidence of the people of the Naga village of Chinam, that the earthquake with them travelled east. I fully expect to receive in time information from numerous other points near this valley, and in the mean time I cannot but think that the line of origin of the disturbance carried north of the main range lies down the valley of the Kopoli, and with the up-throw of the stratified rocks against, or on the metamorphics. I hope to be able to illustrate this by a map, shewing with arrows the exact position where the direction of the shock was noticed, and I am sure if like information can be collected by any one in Tipperah and Chittagong, that some interesting matter for speculation and thought would result. Enquiries are necessarily to be made at numerous places, and although much of such data will be that supplied by natives it is valuable. It is all we can get, and must be made the most of, and only by the accumulated

data of each succeeding convulsion, can we hope to become better acquainted with the forces and action of such phenomena.

The first shock after the great earthquake was not severe, the motion being very quiet and swaying, no shaking whatever. The second was a very peculiar vertical motion, a regular thump from below, followed by another precisely similar in 20 seconds. The greatest number of shocks occurred between 6 p. m. and 8 p. m., that at 6-32 lasting a minute. A very gentle motion and tremor occurred about 6 p. m. The hoolooks who had long retired to rest were evidently disturbed by the shocks, and were heard in the forest close by.—After this date, the most decided shock was on the 14th January at 3-30 in the morning, and another on the 17th was also severe,—two distinct waves at about 12 p. m.

Very noteworthy is the distant report of a heavy gun on the 19th January, heard towards the west at 1-49-19 p. m., the time I took immediately by chronometer as I fully expected a shock to follow. Another very loud explosion was heard from Mahadeo peak at midnight of the 29th; and again from the same peak, at 7 a. m. next morning the 30th, but no shock came after, on either occasion I may here mention that last cold weather, on several occasions, when I was in the North Cachar Hills I heard at various times, the like distant reports, resembling exactly the firing of big guns at a great distance. In one or two places the country people had noticed it, and they even used the expression that it proceeded from the earth. These subterranean explosions must be heard over large areas, and it would be interesting if they could be noted, or rather if those hearing them, would make the matter public; I have no doubt there are many individuals who will remember having heard such sounds.

During the whole period of disturbance here, it is my belief that the ground has scarcely been in perfect rest, for any continuous length of time, certainly up to the 20th, and that a seismometer would have recorded many a movement imperceptible to the senses. When observing with a 12-inch theodolite at Mahadeo, the instrument has been repeatedly thrown out of adjustment and the exact time and motion unknown, and unperceived, save by the alteration of level. On one perceptible shock, the ground was trembling long after we had ceased to feel it. This the bubble shewed for quite 2 minutes and when

set east and west, kept shifting regularly by jerks about 1 degree of the scale. Regarding levels of the country, in one so mountainous and covered with forest, only very great displacements could meet with observation; in the plains of Cachar and Sylhet they appear to have been great, and there they would be peculiarly easy of observation in the beds of streams, &c. It would appear to have affected streams a good deal and to have caused a rise in them. The small stream west of Assaloo increased considerably afterwards, and was of course very muddy. Men proceeding to Cachar from my camp, found the ford at Pani Ghat much deeper by more than a foot on their return, and they re-crossed it 6 days after the first great shock; they said also that all minor streams had more water in them. In the table attached, I give all the shocks recorded here up to the 2nd February, on which day the last took place.

The Nagas about here do not remember any earthquake like the present, but have some tradition of former disturbances, many years ago. They all say that the crops will be particularly fine this year, and believe it will be due to the visitation,—a parallel to the good vintage of the comet year.

11th	p. m.	9	25	...	...	...	...	...	With several during the night, all slight compared with those that took place before.
12th	a. m.	6	16	...	...	...	...	...	Slight.
"	a. m.	9	48	30	...	...	...	...	Ditto.
13th	p. m.	2	23	...	...	...	...	...	Felt at Mahadeo slight. Earth in tremor for a long time after it was felt, as shewn by the bubble of Theodolite, which was at the time levelled for vertical readings.
14th	a. m.	3	32	...	...	...	...	...	A very smart shock.
15th	p. m.	10	45	...	...	...	...	...	Slight shock.
16th	p. m.	4	34	51	...	...	...	...	Ditto
"	p. m.	6	13	21	...	...	...	...	Vertical jump.
17th	p. m.	11	51	8	...	...	...	...	A severe shock, two distinct waves.
18th	a. m.	7	...	...	...	...	...	...	About 7 a. m., slight.
19th	p. m.	1	48	23	...	...	...	...	No shock, but sound of an explosion, like a distant piece of heavy ordnance fired on the west.
20th	p. m.	2	...	...	...	...	...	...	Slight shock felt while observing angles at Mahadeo. H. S. about 2 p. m.
21st	a. m.	4	...	...	...	...	...	...	About this hour, very slight.
"	p. m.	6	45	...	...	...	...	...	Ditto, the last felt for several days.
29th	mid.	...	...	...	...	...	...	...	About midnight a very loud report of explosion heard to the south of Mahadeo, H. S. Latitude 25° Longitude 93°.
30th	...	...	...	...	...	...	...	...	Another fainter, heard about 7 a. m. on the same peak.
31st	betwn.	{ 11 30 } { 12 0 }	...	...	...	...	...	...	Slight shock felt in camp. Observing angles this day on Mahadeo peak. Level of the instrument 12". Theodolite was thrown out in very unaccountable manner and certainly was not accidentally touched. After leaving it for breakfast, found it again thrown out of level; this was the time a shock was felt in camp at the base of the mountain.
Feb.									Shock very marked.
1st	a. m.	12	30	40	...	...	...	...	Very slight, just perceptible. Another reported by natives occurred about 5-30 a. m.
"	a. m.	8	...	54	...	...	...	...	and was distinct, and noticed by several.
2nd	p. m.	5	50	19	...	...	...	...	Very slight.

Upon the invitation of the President, Mr. Leonard gave a short account of his recent visit to Cachar. He stated that the reports regarding the severity of the earthquake, and especially as to its action in rupturing the earth, were considerably exaggerated; early reports were decidedly so, most people being so much surprised and alarmed by the shock and its results, that they seemed to be incapacitated at the time for making anything like accurate observations, and hence very great caution should be observed in accepting information as to the intensity of the shock, or as to the direction of the wave. He could vouch for the fact, that highly exaggerated and most incorrect accounts had been received by himself on the subject.

Regarding the point of greatest intensity, he was first inclined to think it was about Silchar, or even more to the west; but since he returned from Cachar, he had an opportunity of seeing a letter from Doctor Brown, the resident at Manipoor, whose account seems to show that the shock had been as severe at Manipoor as in Silchar. To the south of Silchar the shock—judging by the land slips caused—seems to have been felt less than in the station, and to the northwest along the road to Cheera Poonjee, for instance, the effects were decidedly less.

There was great difficulty in deciding, from the observation of facts, the direction of the wave. Statements of individuals were generally to the effect, that the movement was from about the south. The church tower fell to the north: but an unfinished building of Messrs. Snells, which consisted almost entirely of unsupported pillars, was thrown down in all directions; the pillars were free to fall in any direction and they really fell to all four points of the compass. Mr. Leonard said, it might be worth noting that houses, with the ordinary Indian flat roof all stood, while most of those with roofs which did not give support to the walls were thrown down or damaged.

He stated that the photographs of damages done by the earthquake, were calculated to give an exaggerated idea of the extent of disturbance of the earth. The disturbances in every case which he had seen, were caused by the slipping in of the banks of the large rivers, or of old river beds, or partially filled up jheels; though he had travelled through the disturbed district for over one hundred and fifty miles, he had not seen a single case of disturbance or fracture of solid ground, unaffected by rivers or jheels running through it. Many of the slips along the river banks were very extensive, in some cases being con-

tinuous for half a mile in length, from five hundred to fifteen hundred feet in width, and the depths of the depression varied from a few feet to thirty feet. Very large quantities of sand and water were thrown up; but he considered that in every case the forcing up of the semiliquid matter was due to subsidence of the firm ground above.

Mr. Leonard stated that the great majority of people said that the water thrown up was cool, a few, however, stated that it was decidedly warm, generally the evidence went to show that it was very little if at all warmer than ordinary water. However as Dr. Oldham had gone over the ground with the special object of studying the whole question, there can be no doubt that we shall soon be in possession of the best collection of facts, and the soundest deductions from them which it is possible to supply.

The President remarked upon the general interest attached to the observations of earthquakes, and expressed the hope that we may get more information on the subject.

Dr. Stoliczka said that, if there were a distinct stratum of sand below the layers of surface clay or soil, the throwing up of sand and water, which during former earthquakes (as that of Lisbon) had attracted so much attention, would be very easily explained. It is almost a natural consequence that, as soon as the fissures in the surface were formed, the slightest undulating motion (which it partially must have been), would shift and throw up the loosened sand; the force with which it was brought up to the surface, would, however, depend upon the local pressure under which the sand and the water stood.

Mr. H. F. Blanford mentioned that he had also obtained in many instances contradictory reports. Up to this time he was perfectly unable to form a correct idea as to the velocity with which the wave travelled. The increase of the temperature of the water appears to be remarkable. In one case, he was informed that the water which came up through one of the fissures had a temperature 9 degrees higher than the annual mean temperature of the locality. This increase was, however, more likely the result of chemical agents, as for instance, decomposition of organic substances &c., than to the great depth from which it had been supposed to have come up.

Mr. Leonard remarked that local pressure upon the underlying strata had also to be taken in account, in cases where an increase of the temperature of the water had taken place.

V.—*Ornithological notes, chiefly on some birds of Central, Western and Southern India*; by W. T. BLANFORD, F. G. S., C. M. Z. S. (Abstract.)

Mr. W. T. Blanford said that it was unnecessary to take up the time of the meeting by reading the paper in detail; it consisted chiefly of notes on the distribution, breeding, and habits of some of the less known birds of India. Since the publication of Dr. Jerdon's invaluable work, by far the most important publication on Indian Zoology ever printed, the study of Indian birds had been very greatly facilitated, and it became now an object to complete the information concerning them. In several instances, many of them pointed out by Dr. Jerdon, additional data were required, especially concerning distribution. Mr. Blanford had had rather favorable opportunities, when travelling about India on the duties of the Geological Survey, of seeing the fauna of different parts of the country, and he only regretted that he had not taken more complete notes.

As an instance of the interest of the subject, he would point out that he had been able to add several additional observations to those already recorded on the differences between both the migratory and non-migratory birds of Eastern and Western India, employing the name India in the way in which it is generally understood in India, and not in that in which it is equally generally misunderstood in Europe, and restricting it to the Cis-Gangetic Peninsula. Thus the common red-breasted fly-catcher of Bengal, *Erythrostera leucura*, was not met with at Nágpúr, while the European *E. parva* abounded. In the same way *Saxicola opistholeuca* and *S. atrogularis*, *Circus cyaneus* and *Emberiza Huttoni* were all found at Nágpúr, or at Chanda still further south, not one of which has been met with in Bengal. On the other hand, Mr. Blanford had never seen a specimen of *Circus melanoleucos* or of *Gallinago stenura* in Central or Western India. They might occur, but probably only as stragglers, as neither appears hitherto to have been recorded.

Some of the non-migratory birds also, especially those which are Malay forms, do not appear to have so wide a range as is generally supposed. Thus neither *Carpophaga sylvatica*, nor any species of *Osmotreron* appear to be found in the great forests of the Lower Nerbudda and Taptee vallies. Mr. Blanford had been throughout

these forests, and could scarcely have overlooked so very conspicuous a bird as the Imperial pigeon, for even had he not been looking for birds in general, he would certainly have killed such an excellent addition to a jungle dinner, if he came across it. Neither did he meet with either of these pigeons in the great woods near Chanda, while he saw both near Sironcha on the Godavery, and both were found in Orissa.

Some of the birds noticed were of great variety, such as *Salpornis spilonota*, *Hirundo fluvicola* and *Cyornis Tickellia*.

VI.—*Descriptions of some species of Reptiles and birds supposed to be new to the Indian fauna* ; by A. E. CARLLEYL, Esq. (Abstract.)

Dr. Stoliczka said that the paper, which is of considerable length, mostly contains the descriptions of species which Mr. Carlleyl collected near Agra, and which he supposes to be new. A detailed description is given of a species which appears closely allied to *Varanus lunatus*, and which belongs to the group of land—*Varani* for which Fitzinger suggested the name *Psammosaurus*. A new species of water snakes, closely allied to *Herania* of the HOMALOPSIDÆ, is also described, and photograms of this species, as likewise of the former one, accompany the description. This species of watersnakes was found in the river Jumna, and is being described by Dr. Jerdon in his forthcoming work on the Indian Reptiles.

Of birds, four species are noticed, all supposed to be new ; one is a small water-hen, probably a species of *Porzana*, from the neighbourhood of Calcutta ; the other a *Motacilla* (shot at Agra) which may prove to be a plumage variety of the *Dukhanensis* or *personata*. Further, descriptions are given of two large eagles, one of which at least seems closely allied to, or identical with, *Aquila imperialis*.

Mr. Carlleyl hopes that he will be able to supply accurate drawings of all the species, and until these have arrived, it would be impossible to pronounce an opinion upon several of the supposed novelties.

LIBRARY.

The following additions have been made to the Library since the last meeting, held in February.

Presentations.

* * * Names of Donors in Capitals.

Journal Asiatique, No. 45.—THE ASIATIC SOCIETY OF PARIS.

The Anthropological Review, No. 24.—THE ANTHROPOLOGICAL SOCIETY OF LONDON,

Bulletin de la Société de Géographie, October, No. 21, Vol. XVI.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Mittheilungen der K. K. Geographischen Gesellschaft in Wien.—THE GEOGRAPHICAL SOCIETY OF VIENNA.

Publicazioni del Circolo Geografico Italiano, fasc. I.—THE GEOGRAPHICAL SOCIETY OF TURIN.

Indische Streifen von A. Weber.—THE AUTHOR.

Über die Krishna Janmāshtami von A. Weber.—THE AUTHOR.

Alloquium Latinum ad Indicarum Academicarum Cancellarios, scriptum a Lingam Lakshmanji Pandito.—THE AUTHOR.

The Calcutta Journal of Medicine, No. 12.—THE EDITOR.

Memoirs of the Geological Survey of India, Vol. VI. Part 3.—THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY.

Records of the Geological Survey of India, Vol. II. Part I.—THE SAME.

Report of the Committee of the Bengal Chamber of Commerce for 1868.—THE BENGAL CHAMBER OF COMMERCE.

Minutes of the Trustees, Indian Museum, for September, 1866, to March, 1868.—THE GOVERNMENT OF BENGAL.

Purchase.

Revue Archeologique, XII. 1868.

Revue des Deux Mondes, December, 1868, and January, 1869.

Revue et Magasin de Zoologie, No. 11, 1868.

Journal des Savants, November, 1868.

Comptes Rendus, Nos. 18 to 24, 1868.

The American Journal of Science and Arts, No. 138.

The Annals and Magazine of Natural History, No. XIII. Vol. 3.

The Westminster Review, January, 1869.

Günther's Zoological Records, Vol. IV.

Grimm's Deutsches Wörterbuch, Vol. IV. Part 2 and Vol. V.

Reise der Österreichischen Fregatte Novara, Zoologischer Theil, Part I.

Lacordaire's Genera des Coléoptères, Vol. VIII.

Simpson's India, Part 3.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR APRIL, 1869.

The Monthly General Meeting of the Society was held on Wednesday the 7th instant, at 9 o'clock P. M.

T. Oldham, Esq., LL. D., President, in the chair.

The minutes of the last meeting were read and confirmed.

The receipt of the following presentations was announced—

1. From Babu Yadunátha Basu,—a Mahomedan copper coin.
 2. From J. Avdall, Esq.,—a Persian MS. of Hafiz.
 3. From W. Stokes, Esq.,—A copy of “Kurzer Abriss einer Lautlehre,” von A. Schleicher.
 4. From the same,—a copy of “Grundzüge der Griechischen Etymologie,” von G. Curtius, vol. I.
 5. From the Rev. J. Long,—A copy of ‘Histoire critique de Manichée et du Manicheisme par M. de Beausobre,’ 2 vols.
 6. From the same,—A copy of Kriloff’s Fables, illustrating Russian Social life.
 7. From the Commissioners of the Department of Agriculture, U. S. A.—A copy of Annual Report for 1866.
 8. From the same—A copy of Monthly Report for 1867.
 9. From the Englishman Office,—A copy of “Rapports du jury International de l’Exposition Universelle” of 1867.
 10. From A. C. Carlleyle, Esq.,—A copy of Notes, Numismatical, Palæographical and Archæological relating to India, MS.
- The President in laying Mr. Carlleyle’s MS. on the table, drew the attention of the meeting to the very good photograms of coins, partially belonging to the author, partially to the Riddel Museum at

Agra, where Mr. Carlleyle is curator. These photograms and sketches are accompanied by short explanatory notes.

The Council reported that they had elected C. H. Tawney, Esq., a member of Council, in place of Dr. Thomas Anderson.

The following gentlemen duly proposed and seconded at the last meeting were balloted for and elected ordinary members.

E. D. Lockwood, Esq., C. S.

M. L. Ferrar, Esq., C. S.

Maulavi Kabir-ud-din Ahmad.

Dr. F. Day.

The Rev. C. Hæberlin.

The following gentlemen are candidates for ballot at the next meeting—

Lieutenant-Colonel Newal, R. A., proposed by the President, seconded by Mr. Blochmann.

R. J. Leeds, Esq., C. S., Chunar, proposed by Mr. Irwin, seconded by Mr. Blochmann.

G. Nevill, Esq., C. M. Z. S., proposed by Dr. Stoliczka, seconded by Mr. G. Wilson.

S. Kurz, Esq., proposed by Dr. Stoliczka, seconded by Mr. Blochmann.

W. Oldham, Esq., LL.D., C. S., proposed by Dr. T. Oldham seconded by Mr. Blochmann.

R. A. Gubbay, Esq., proposed by Maulavi Abdoolatteef, seconded by the Hon'ble J. B. Fhear.

The following gentlemen have intimated their desire to withdraw from the Society ;

J. Agabeg, Esq.

Capt. A. Pullan.

Bábu Kedáranátha Banerjí.

Reports on the late Earthquake received since the last meeting from the Government of Bengal, were laid on the table.

Major G. Pearse's letter, bringing to the notice of the Society Dr. McFarlane's belief of the existence of pre-historic remains of man near Rewah, was also submitted. Major Pearse writes, under date of "Cheltenham, 8th February, 1869," as follows—

"Dr. MacFarlane, of the Retired List, Madras Army, who was with Sir

George Whitlocke's column in the Mutiny War of 1857, has brought to my notice a circumstance which I place before you, as it may be deemed worthy of being enquired into, should it not have already been so. And should it have been so, I shall be much obliged by being informed where mention is made of it.

"Dr. MacFarlane states, that 10 miles from Simareea, which place is 14 miles from Rewah, at the Falls of the Tonse river, are pre-historic remains of an unusual nature;—in so far, that the mounds or barrows are flattish; that the stones encompassing them are around barrows of parallelogram form, instead of around circular barrows; that these barrows extend for miles, and are laid out as we lay out flower-beds, but that all the beds or barrows are of parallelogram form. I don't remember to have heard, or read, of this pre-historic sort of structure."

The President stated that the Council in communicating the above letter, wished to draw the attention of the members to these interesting relics, should any one of them have an opportunity to examine the locality.

The President then introduced to the meeting the Rev. Dr. Wilson, of Bombay, who delivered an address "on the prospects of Indian research," of which the following is a very brief abstract:

The Rev. Dr. Wilson, in addressing the chairman and the meeting shortly noticed how the Asiatic Society of Bengal was founded by that prominent Orientalist, Sir W. Jones. He stated how Colebrooke enriched the Society's transactions by his very learned and interesting researches into the history, antiquity, &c. of India: and how the subsequent minute investigations of European science have corroborated his statements. Professor H. H. Wilson, extended the investigations, first commenced by the learned founder of the Society, and his labours in the analysis and examination of the Puranas have elucidated the hitherto unknown origin of Indian customs and manners. He, it was, who translated the several dramatical works of the Hindus, and first brought to the notice of the European public, the beauties of the Sanscrit language. The Rev. Doctor also called the attention of the meeting to the unparalleled persevering ingenuity of Mr. James Prinsep, and particularly dwelt on his labours, connected with the decyphering of the edicts of Asoka. Thus, through the im-

portance which these works had upon history and language, the Asiatic Society of Bengal became the parent of almost all the other Societies of the kind.

Dr. Wilson then briefly mentioned how Mr. McIntosh founded the Bombay Branch of the Royal Asiatic Society, and spoke of the practical benefits derived from the labours of the Societies in India.

The Indian literature and history have greatly benefited by the study of the old classic writings of the Hindus, and he (Dr. W.) was gratified to say, that the progress which has been made in the publication of the Vedas, justifies the expectation that they will soon be completed in the hands of oriental scholars. The study of these Vedas is most important, not only in a historical point of view, but interesting, as shewing the simplicity of the character and customs of the people, and as connected with the origin of mythological ideas.

Dr. Wilson here read a long extract from the introduction to his forthcoming work, "on castes," in which he shewed the importance of the study of the Vedas.

These ancient writings make it now evident that there had been a considerable amount of civilization among the Aryans of this country, though their progress in this respect was not as large, as that of their brethren who travelled towards the west. It is most probable that the Indian Aryans were pastoral tribes, which spread over all the fertile country of the large valleys of India, but on account of the hostile attacks of the aboriginal races, they still were obliged to maintain an intimate connection, however distant their mode of wandering may geographically have necessitated their separation. Thus a sort of common social life was founded; religious views were developed, customs and laws of common intercourse established. Their religion, which was altogether in the hands of the priests, chiefly occupied itself with magic ceremonies, though a certain amount of philosophic ideas is observable through the whole system. Unlike the Aryans who migrated towards the European shores, and were susceptible to every influence of foreign civilization, the Indian Aryans shut up themselves from all foreign influence, preserving their own original and peculiar system of religion and other ideas of social life. This exclusion of foreign elements, Dr. Wilson, however, considered as probably disadvantageous to the progress of their civilization.

During the time of the Vedas, the Indian Aryans still were chiefly a pastoral people, though to a certain extent also agricultural, as shewn by the frequent mention of their herds of cattle, buffaloes, horses, camels, &c. Their wars with the neighbouring tribes shew that their military arrangements also must have been attended too. All these occupations were connected with a certain degree of industry, and in works of art they were by no means ignorant. They knew the art of weaving and spinning, the use of iron, copper, brass, &c., of which they possessed various instruments for agricultural and domestic purposes, as well as weapons for defence in time of war. The precious metals were worked to a large extent, and used as a kind of payment in exchanges, or as ornaments; the polishing and cutting of precious stones was equally well known. In war they had, like the Egyptians, chariots drawn by horses, of which they seem to have taken great care. Poisonous extracts of plants, and the intoxicating properties of other vegetables were then already in use, though probably more tolerated, than encouraged. Their commercial connections were also extensive, they must have had intercourse with the East as well as with the hilly country of the North, for the *pushm* was known to them. In support of all these and many other occupations of the people, Dr. Wilson read a very long list of names of artisans mentioned in the Yajur-Veda; among these names were such as ivory-worker, dealer in nectar, compounder of perfumes, confectioner, painter, actor, worker in coral, brass-founder, stone-cutter, destroyer of poison, cotton-dealer, &c., which undoubtedly shew a high state of civilization.

Dr. Wilson stated that the Asiatic Society of Bengal first commenced the printing of the Rig Veda, when Professor Max Müller, under the patronage of the Hon. E. India Company began his edition of the Veda. The Society had also the greatest share in bringing to light the Vedic literature of the Brahmans. Dr. Haug of Bombay had published the text of the Aitareya Brahmana of the Rig Veda, which was of very great interest, and Dr. Weber's studies in the Yajur Veda, were equally acknowledged.

The *Āranyaka* lectures, delivered in the forest, and the Upanishads have been published by the Society. The difficulty of the meanings of Vedic words was here pointed out, as many explanations of the Vedic terms are conjectural.

The Society have also published the *Srauta Sutras* and the *Grihya Sutras*. The *Sutras* are directions for performing Vaidic ceremonies ; they are more recent than the *Vedas*. Dr. Wilson also referred to the numerous ancient *smritis*, fragments of which he had collected. The grammar of the Hindus, he stated, is a great evidence of the character of the Hindu mind. He mentioned that there were grammars in existence before Panini, and recommended that the native systems of grammar should be studied together with the European. As regards the styles of the Hindu poetry, he said they are not the very models of of elaborate writing : Kalidasa's long syllabic words do not much beautify his poems. Several authorities were of opinion that Kalidasa flourished as late as the 12th century. Dr. Wilson admitted, however, that the Hindu poet was sensible to the beauties of nature, and is famous for his descriptions of Hindu scenery.

After these remarks on the labours of the Asiatic Society of Bengal, Dr. Wilson briefly stated the direction of the labours of the Bombay Asiatic Society. They had devoted their attention chiefly to Sanscrit and Pársí, as also to the study of the numerous Buddhistic and Brahmanic remains, as regards structures as well as inscriptions. Of late they had, however, paid great attention to philological Grammars of Gujrati and to Vernaculars. He suggested that more attention should be devoted to the vernacular languages, and took this opportunity of mentioning Mr. J. Taylor's Gujarátí Grammar, recommending that similar Grammars of the other vernacular languages should be prepared.

The Rev. Dr. then stated in general, his views regarding the Aryan population of India and alluded to the numerous variations which the climate, and other causes, may bring forward in the human character. As regards the language, he stated that eight-tenths of Bengali words can be derived from the Sanscrit, but he expected that if investigations were earnestly begun, almost all may be traced ultimately to the Sanscrit. He further thought that people were sometimes too ready to refer Indian words to non-Aryan languages. As an instance, he derived the word *Páre*, one-fourth of a *sera*, from the Sanscrit word *páula*, and said that such interchanges of labials and dentals are not scarce. The non-Aryan words are certainly worthy of attention, but they ought always to be carefully

compared with the variations of the Sanscrit words. The Bráhui language, he believed, to be a cognate of the Telugu. He derived the word *Gond*, a tribe, from *Govinda*, and the *Koles* from *Kula*, a clan.

Dr. Wilson then briefly alluded to the progress that had been made in other branches connected with history and linguistic studies. He specially pointed out Mr. Campbell's Summary of the Ethnology of India. India has, he stated, true aboriginal races in large numbers, and he hoped that further study would largely elucidate our as yet very imperfect knowledge of the races.

The progress made in natural history in India, especially in botany and geology, were also briefly pointed out.

In conclusion, Dr. Wilson referred to the great progress which the Society lately made in the study of the Persian and Arabic literature. Mr. Blochmann's translation of the *Ain-i-Akbari* he thought a very important publication.

The President, after having remarked upon the very large field of research which Dr. Wilson had noticed, proposed that the special thanks of the Society be given to the Rev. Dr. Wilson for his eloquent address.

The proposition was carried with acclamation.

The President, having requested Mr. W. S. Atkinson to take the chair, exhibited to the Society a number of photograms, shewing the results at Cachar of the earthquake which occurred on the 10th January, 1869. Two of these he had specially taken, as exhibiting, better than those views selected by the photographic artist, the peculiar result of this serious disturbance. These were, the gateway of the cemetery, which had been entirely overthrown, and a handsome and massive white marble tomb in the cemetery, the slabs comprising, which had been thrown from their original position to a distance, in the case of the topmost slab, of eight feet, carrying with them the iron railings of the tomb, and the chain, supported by wooden pillars, outside the fence. These two cases were quite consentient as to the direction of the great shock at Cachar, which was from 5° to East of North. Other facts confirmed these observations. And from the fall of the masses it will be possible to arrive at a knowledge of the celerity of motion of the wave particles, and possibly of the amplitude of the wave.

The results, however, of this great shock were complicated by those

produced by minor shocks, of which two at least preceded the greater shock, and several succeeded it. He (Dr. Oldham) had been able also to obtain some evidence tending to establish the angle of emergence, at several points of observation, which would shew the depth of the seismic focus, and also some readings of direction from other places than Cachar, which all pointed to a position under the Naga hills as being the source of the disturbance. Of all these full details would be given in report.

The most striking result of the earthquake, were the great fissures in the surface, and the sinking and swelling of the surface over a large area. These were certainly very remarkable, and had produced much damage, but they were in all cases only *secondary* results of the earthquake. They were exclusively confined to what was called by the people of the country the *blurte* (or 'filled in') land, there being no single case of their occurrence in the *kandy*, which might be called the old banks, of the river valley. But in every one of the many long curves which the river Baruk forms below Cachar, and for scores of miles, these fissures might be observed, greatest in amount near the river bank, but extending for miles across these peninsula-like extensions of the river flats. The cause of them became evident after a very little examination. All the country referred to, is composed of some 30 to 40 feet thick of hard clay, and sandy clays, which for thousands of square miles, rest upon a bed of 3 to 4 feet thick of bluish silt, or ooze, very porous and being highly charged with water. In this wet state the colour appears very much darker, and the whole looks of a deep greyish blue. The bed is about the level of the river at its present low water, or dry season height. The finely divided silt, or ooze, thus charged with water, formed a highly slippery or unctuous bed, on which the slightest motion would tend to make the heavy and more solid beds above to move, or slide. The shock came; this bed, and the large amount of water in it, were disturbed, the support of the beds above weakened, and in many places removed, and the necessary consequence was, that they fell in. The moment motion commenced, the soft silt below was squeezed out by the superimposed weight: and the entire thickness of the beds above slipped down or slid out, on the greasy surface; this motion producing cracks and fissures. Frequently the sudden pressure of this mass of some 30 feet thick above forced up the fine

silt through the fissures, or through any holes in the surface. At first it was in places driven out with the rapidity of a cannon shot, in a perfectly dry state, and gave one the idea of smoke issuing from these fissures, but almost immediately after the wet and slushy mud came up, and, overflowing the edge of the opening through which it had been forced out, formed a raised lip all round. If the watery mud continued to be forced up, it in many cases broke through the lip it had itself formed and flowed away in a kind of stream. But if not, or after the force had been exhausted, it gradually retreated again, and as it retired tumbled down the edges of the fissure through which it had been forced and eat them away into small conical hollows, which had been described as mud craters. Photograms, shewing all these peculiarities were on the table. Mr. Oldham stated that details of calculation &c. would all be given at a future time with a report on the facts.

A short discussion followed in which Mr. Atkinson, Rev. Dr. Wilson and a few other gentlemen took part.

Of the following papers short abstracts were partially read.

- 1.—*Notes of a translation of Balandshahar Inscription*, by BABU PRATAPACHANDRA GHOSHIA, B. A. (Abstract).

This inscription records the grant of a village named Gandavá to a Gaṇḍa Brahman in Samvat 1233. The grant was made by Ananga, a king of Kalinga of the Rodra family. The inscription is in *Nāgrī* characters of the Kutila type, though some characters are quite modern. The language is Sanscrit. The copper plate measures 1 foot 9 inches by 1 foot 1 inch. It was presented to the Society by Mr. Webster, Collector of Balandshahar in February, 1867.

- 2.—*The history of the Burmah Race, Part III.*; by COL. SIR A. PHAYRE, K. C. S. I., C. B. (Abstract.)

This paper is the continuation of Col. Sir A. Phayre's article on the History of the Burmese Race which appeared in the philological part of the Journal for 1868. In that paper, the History of Burmah, as given in the Burmese chronicle *Mahá-rádzá-weng*, was brought down to the year 660 of the Burmese Era, corresponding to 1298, A. D. In that year king Kyau-tswá, during the reign of whose father the Tátárs had invaded Burmah, was dethroned and eventually murdered by three brothers of the Shan race.

In the paper now laid before the meeting Sir A. Phayre traces the history of these three Shan brothers, and their successors and contemporaries to the year 1364, A. D., when Tha-do-meng-bya founded the city of Ava. The history of the successors of this king is then continued to the year 1555, when Bhureng NOUNG captured Ava, and usurped the throne.

The period, therefore, of the history of Burmah, as described in this paper, extends from A. D. 1298 to 1555, a space of 257 years.

The paper will shortly be published in the Society's Journal.

Notes on the Famine-foods of Marwar; by Assistant-Surgeon GEORGE KING, M. B., lately attached to the Marwar Political Agency, —communicated through DR. C. R. FRANCIS.

The substances resorted to by the very poor, as articles of food in times of famine, are probably pretty much alike in most parts of Northern India. With those used in our own provinces we are, unfortunately, but too familiar, yet as Marwar is a territory, of which most Europeans know so little, I have ventured to throw together a few notes on the substitutes for the ordinary cereals which are being used there, during the present severe famine. The accompanying specimens of the raw substances, and of the breads prepared from them, were obtained by me in October last, in the districts of Joudhpore and Pallee, from famishing wretches who were then subsisting largely on them.

The Marwarees, in common with the inhabitants of the neighbouring states of Jeysulmere and Bikaner, are familiar with famine, or at least with scarcity. In all three states, the annual rainfall is extremely small. There are no accurate statistics on record, but that of Marwar may be set down at about 3 or 4 inches, which (with the exception of a very uncertain fall of about a quarter, or half inch, in the cold weather) is confined to the latter end of July, August and September. The rain-crops afford the staff of life, for owing to the scarcity of water for irrigation, and its depth* in many cases from the surface, the area of wheat cultivation is very limited, and pulses are grown scarcely at all. Wide tracts of land are hurriedly ploughed after the first shower of the rainy season falls, and *jowar* and *baajra*

* In Bikaner, some of the wells are more than 800 feet deep!

are sown. But even the fate of these crops is very uncertain, for if the scanty rainfall of 3 or 4 inches is not distributed in showers, falling at reasonable intervals they become stunted, and the yield of fodder (in these parts as important as grain) is insufficient for the support of the cattle. The crops having been reaped, these tracts lie quite fallow until next rains, and are almost undistinguishable from the surrounding "jungle," if the term can be applied to such a comparative desert.

The states, I have mentioned, are essentially pastoral. In Bikaner, camels are reared in enormous numbers, and in Marwar the wealth of the people lies chiefly in their horned cattle, while in none of the three is sufficient grain grown for the support of its own inhabitants. After the rains, a scanty crop of grass springs up, which, with the dry stalks of the *bajra* and *joar*, affords the year's supply of fodder for the cattle. Camels find their chief food all the year round in the leaves and twigs of *Zizyphus*, *Salvadora*, *Acacia* and other jungle shrubs.

On the first symptoms of a failure of grass, the majority of the horned cattle are driven off under the care of the younger men to seek forage in Malwah or Guzerat, a few bullocks being left to conduct ploughing operations, should showers fall in time to give any hope of a rain crop, and to prepare the soil for the cold weather crop, small as it is. Poorer people who have no cattle, aged and infirm people, and children, do not leave the country until pressure for human food begins to be felt.

Last year so early as the middle of August, the wiser ryots had their flocks in motion towards Malwah, but as rain so utterly failed, many who put off their departure until a month later, were obliged to remain altogether on account of the weakness of their cattle, the impossibility of finding forage for them on the road, and the difficulty of getting food even for themselves. Not a few who had actually reached Guzerat, having sold their cattle and valuables, and being unable to find employment, returned to Marwar, preferring to die in their homes if it must come to that, and like true natives trusting for something to turn up. But the scarcity is not of food only but of water also, and many a poor wretch was, I believe, prevented from fleeing the country from his inability to walk from one well of sweet water to the next, much of the Marwar well water being brackish,

and the supplies of superficial water having of course been exhausted at an early period of the drought.

With reference to the general subject of scarcity and famine in Rajpootana, the conviction has been forced upon me that these are more common of late years than in times past. This is the confidently expressed opinion of many intelligent old Marwarces with whom I have conversed on the subject. Scarcity is indeed now quite a chronic condition in many parts of Marwar. There is no evidence to prove that this rises from increased population. The character of the government of the country, during the reign of the present and of the last two or three Rajahs, has not been such as to render that a probable solution; besides it is known that the population of the towns at any rate has decreased of late. On the other hand there is a strong impression among the inhabitants that the cause lies in a diminution of the products of the soil, due to a steadily increasing failure of rain. In the absence of meteorological records, the question cannot be settled, but I am inclined to think that this is the explanation.

Much attention has been attracted of late to the reciprocal influence of the vegetation of a district and its rainfall, and the old observation—that *as trees are cut, moisture is lessened*, has been abundantly verified. It is needless to say that in Marwar this principle is unrecognised, and that there is no system of forest conservancy. There does not appear to have been of late any unusual destruction of forest products. For ages the struggle for life in the plains of Marwar has been between men and cattle on the one side, and vegetation on the other. It is an unequal fight, and vegetation is now losing. Nothing is conserved; the few indigenous trees are cut down, and none are planted in their stead. Even shrubs are not spared. Any one who has seen the hedges from 6 to 10 feet high and about as broad, made of dead prickly shrubs, that surround a Marwar village and its fields, can understand what drafts are made on the scanty undergrowth of the jungles for this purpose only. Many more are sacrificed in the preparation of “pala*” as fodder for cattle and camels, as well as for firewood. Herbaceous plants fare no better. These are nowhere

* “Pala” consists of the dried leaves of *Zizyphus*, the commonest jungle shrub in Marwar. To obtain it, the bushes are cut down and the leaves are shaken off the withered branches.

numerous, but on the first sign of drought, their roots are dug up as fodder for cattle, sheep and camels. By such measures not only is the influence of vegetation, as at once the conservator and attracter of moisture, interfered with, but the hard surface being broken up and loosened by the removal of the roots that bind it into consistency, the naturally light and sandy soil is exposed to the full force of the prevailing W. and S. W. winds.

The territory of Marwar lies between the Aravalli range of hills on the East, and the desert on the West, and the fertility of any part of it is in direct proportion to its distance from the latter boundary. At the base of the Aravalli lies Godwar, the garden of Western Rajpootana, while on the margin of the desert is situated the barren and inhospitable district of Mullānee. Sandstorms of long duration and great severity are extremely common at certain seasons, and they invariably blow from the west. Much that I saw and heard during a year's residence in Marwar leads me to believe that the loose sand of the west is gradually overwhelming the east, and as the process goes on, the reign of barrenness extends eastward.

It would be rash to say that the ruthless destruction of vegetation just described, is the sole cause of the alleged increasing frequency of scarcity in Marwar, but it may with safety be admitted that some attention to the conservation of forests (including in the latter term all the vegetable products of waste lands) would be likely to increase the supply of moisture in these regions. Every one knows the difficulty of planting trees in a dry district where the soil has been opened up to the influence of the sun and air, and where all shade has been removed by the cutting of trees.

Dry as Marwar is, however, several species of trees and shrubs could be successfully planted in the rainy season.

Chief among these are the three species of *Acacia*—*Arabica*, *leucophleea* and *Catechu*,—*Salvadora Persica*, several species of *Zizyphus* and *Capparis aphylla*. The two first mentioned are valuable as timber trees.

Should a railway, as is proposed, be laid down in Rajpootana, the subject will become one of importance to our interests, but without the interference of our Government, nothing whatever will be done by the native rulers, whose interests are really most affected.

The chief jungle products being used as food during the present famine in Marwar are as follows :—

1. *Mothee*. This is the root of *Hymenochaete grossa*, of the natural order *Cyperaceae*, a tall rush which grows on the margins of tanks. It is not eaten by cattle, but in times of famine the root is eagerly dug up for human food. The fibres and dark cuticle being removed, the solid part of the root is dried, ground, and made into bread, a little flour being sometimes mixed with it. The accompanying specimen of the bread I got from a man who, with his family, was making his dinner of it. Even when freshly made, the bread is dark brown in colour, and has a sour and earthy taste. Roots of other species of rushes besides that named above, are also collected under the name of "*Mothee*," but not in any quantity.

2. "*Kejra*—The bark of *Acacia leucophlœa*, a tree common in Rajpootana. Bread is made from the ground bark, with or without the addition of flour. It has an astringent bitter taste, and is far from palatable. On the principle of *experimentum in corpore vili*, I made my sweeper fare on it for a day. The poor man suffered a good deal of griping and discomfort in consequence. I found this to be the usual experience for the first few days that either this or *Mothee* are eaten, but ultimately the stomach gets accustomed to the nauseous food. The young pods of several species of *Acacia* are eaten as vegetables even during times of plenty, and such of their seeds as had ripened, were this season ground into a flour, but the quantity available was very small.

3. *Broont* or *Bharoont*.—The seed of *Achyranthes aspera*, a plant common all over the plains of India. When the outer covering of the seed has been removed, as in the specimen which I have forwarded, a wholesome looking grain remains. The bread made from it is very good, and is considered the best of all the substitutes for the usual cereals.

4. *Gokhur-Kantee*.—The capsules of *Tribulus lanuginosus*, of the natural order *Zygophyllaceæ*, a decumbent herbaceous plant of wide distribution in India. From the difficulty of collecting it, this does not take a prominent place as a famine food. The unopened capsules are ground down into a rough kind of meal, but from the small proportion which the contained seeds bear to the tough fibrous tissue of

the seed vessel, the bread, of which a specimen is shown, must be indigestible, non-nutritious and irritating.

5. *Maleecha*.—The seed of a species of grass (probably an *Eleusine*.) I have no sample of the bread made from this ; neither could I obtain any specimens of the plant itself, so as to identify it.

6. *Tilli*.—The refuse of the seeds of *Sesamum orientale*, remaining after the oil has been expressed. This is not made into bread, but is boiled with water into a kind of soup. The specimen, exhibited, was bought from a bunneah in Joudhpore bazar, who was selling it to an eager crowd at the rate of seven seers for a Company's rupee. In Marwar, this substance is largely stored up by bunneahs against seasons of scarcity. It keeps for many years without further deterioration than a darkening of colour.

7. *Seeds of various Cucurbitaceous plants*.—Watermelons of great size grow in a semi wild state in enormous numbers in Bikancer, and some parts of Marwar, during the rains. The seeds of these, of cucumbers, pumpkins, and melons are stored up against scarcity. They make a not unpalatable bread.

With the exception of Tilli cake, none of the articles just enumerated can be had to buy. *Mothee* will not keep, but the others are hoarded up in their houses by the poorer people themselves for their own use when the crops fail. These hoards are however, insignificant, and are soon exhausted during seasons like the present, when in many parts of Marwar no rain whatever has fallen for more than a year.

Botanic Garden, Saharunpore, 25th January, 1869.

The reading of the following papers was postponed ;

4. Contribution towards the knowledge of Indian Arachnoidea ; by Dr. F. Stoliczka.

5. Contribution to our knowledge of Pelagic Mollusca ; by Capt. G. E. Frayer.

6. Topographical features of Assam and their indications ; by Dr. J. Meredith.

LIBRARY.

The following additions have been made to the Library since the last meeting held in March.

* * The Names of Donors in Capitals.

Presentations.

Journal Asiatique, No. 44.—THE ASIATIC SOCIETY OF PARIS.

Bulletin de la Société de Géographie, November and December, Vol. XVI.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Proceedings of the Royal Society, Vol. XVII., Nos. 106, 107.—THE ROYAL SOCIETY OF LONDON.

Proceedings of the Royal Society of Edinburgh, Vol. VI. No. 74.—THE ROYAL SOCIETY OF EDINBURGH.

Transactions Royal Society of Edinburgh, Vol. XXV. Part I.—THE ROYAL SOCIETY OF EDINBURGH.

Journal of the Chemical Society, Vol. VI., 2nd series, October, November and December, 1868.—THE CHEMICAL SOCIETY.

Journal of the Bombay Branch of the Royal Asiatic Society, Vol. IX. No. XXV.—THE BOMBAY BRANCH, ROYAL ASIATIC SOCIETY.

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The Public Ledger Building, Philadelphia, with an account of the Proceedings connected with its opening, June 20th, 1867.—THE GOVT. OF THE UNITED STATES OF AMERICA.

Rahasya Sandarba, Vol. V. No. 50.—THE EDITOR.

The Calcutta Journal of Medicine, Vol. II. No. 1.—THE EDITOR.

Schleicher's Vergleichende Grammatik.—W. STOKES, ESQ.

Grundzüge der Griechischen Etymologie, von G. Curtius.—W. STOKES, ESQ.

Histoire Critique de Manichée et du Manichéisme Par M. De Beausobre, Tom I, II.—THE REV. J. LONG.

Kriloff's Fables illustrating Russian Social Life.—THE REV. J. LONG.

Rapports du Jury international de l' exposition universelle, 1867.—FROM THE ENGLISHMAN.

Hafiz MS.—J. AVDALL, ESQ.

Report on the Statistics of the Prisons of the lower Provinces of the Bengal Presidency for 1861 to 1865; by F. J. Mouat, Esq., M. D.—THE GOVERNMENT OF BENGAL.

British Burma Education Report, 1867-68; by P. Horden, Esq., B. A.—DITTO DITTO.

Report on the Land Revenue Administration of the Lower Provinces for 1867-68.—DITTO DITTO.

Report on the Government Charitable Dispensaries, Bengal (Proper) for the year 1867.—DITTO DITTO.

Icones Plantarum Indiae Orientalis, Parts I, II; by Major H. Beddome.—THE GOVERNMENT OF INDIA, HOME DEPARTMENT.

Purchase.

Revue Archéologique, No. 1, 1869.

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Ditto ditto, Nos. 1, 2, 1869.

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The Annuaire des Deux Mondes, Vol. XIV.
The Edinburgh Review, No. 263, January, 1869.
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The Quarterly Journal of Science, No. 21, January, 1869.
The Kāmil of El-Mubarrad, Part V; by W. Wright.
Exotic Butterflies, Part 69; by W. C. Hewitson.
The History of the reign of Shah-Aulum.
The Ayn-i-Akbari MS.
Jacut's Geographisches Wörterbuch von F. Wüstenfeld. Dritter Band, Zweite Hälfte.
Elements de la Grammaire Assyrienne. M. J. Ménant.
Malisch Leesboek door H. N. van der Tunk.
Nalus Maha-Bharati Episodium, F. Bopp.
Chenef, Nāmeḥ ou Fastes de la Nation Kourde, F. B. Charmoy.
Der Bundelesh, von T. Justo.
Japanese Grammar; by J. J. Hoffmann.
Vergleichende Grammatik, Erster Band, F. Bopp.
Reisen in Indien und Hochasien, Erster Band, von H. Schlagintweit.
Geschichte der herrschenden Ideen des Islams, von A. Kremer.
Elements de la langue Malaise, ou Malaye; par A. Tugault.

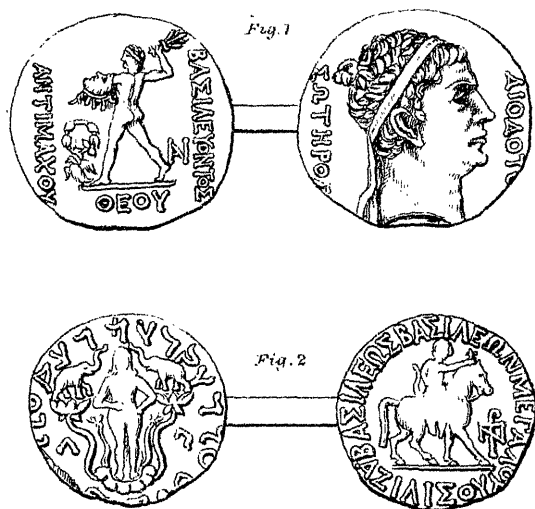


Fig. 1. Artemachus Theos.

Fig. 2. Azulesis.

Vide. Proceedings for July 1868 p. 264.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,

FOR MAY, 1869.

The monthly meeting of the Society was held on Wednesday, the 5th instant, at 9 o'clock p. m.

T. Oldham, Esq., LL. D., President, in the chair.

The minutes of the last meeting were read and confirmed.

The receipt of the following presentations was announced—

1. From Bábu Udayachúnda Datta, Civil Surgeon, Purulia, through Bábu Rájendralála Mitra, a Sanscrit manuscript in the Uriá character, inscribed on palm leaves, containing—

(a.) A copy of the *Paryýáya-ratnamálá*, or a Vocabulary of Synonyms of all articles used in Hindu medicine, compiled by Mádhava Kara.

(b.) A treatise on Indian Materia Medica, entitled by the author *Nirghanṭá rája*, alias *Abhiñhána-chudámaní*, but commonly known by the name of *Rájánirghanṭa*. The author's name is differently given at the end of the different chapters of the work, as Narahari, Nara-sínga and Nṛihari. The manuscript is incomplete, containing only the first seventeen chapters.

2. From the Rev. Dr. F. Mason,—the *Toungoo News*, Vol. V. No. 1.

The following gentlemen, duly proposed and seconded at the last meeting, were balloted for, and elected ordinary members:—

Lieutenant-Colonel D. J. F. Newal, R. A., Mean Meer.

R. J. Leeds, Esq., C. S., Chunar.

G. Nevill, Esq., C. M. Z. S.

S. Kurz, Esq.

W. Oldham, Esq., LL. D., C. S.

R. A. Gubboy, Esq.

The following gentlemen are candidates for ballot at the next meeting.

J. Schroeder, Esq.

Proposed by Dr. F. Stoliczka, seconded by Mr. Blochmann.

J. Leupolt, Esq., C. S., Goruckpur.

Proposed by the President seconded by W. Oldham, Esq.

T. W. Rawlin, Esq., B. C. S., Assistant Magistrate, Allahabad.

Proposed by Lieutenant-Colonel A. S. Allan, seconded by Mr. Blochmann.

Bábu Udayachánda Datta, Civil Surgeon, Purulia.

Proposed by Bábu Rájendralála Mitra, seconded by Mr. Blochmann.

W. C. Bonnerji, Esq., Bar.-at-law, Calcutta.

Proposed by Maulavi Abdul-lateef Khan Bahádúr, seconded by the Rev. J. Long.

The following gentlemen have intimated their desire to withdraw from the Society—

Colonel P. S. Lumsden.

T. Martin, Esq.

Mr. H. Perkins' election, in August last, was cancelled at that gentleman's own request.

The Council reported that, on the recommendation of the Finance Committee, they have sanctioned the sale of Government Securities belonging to the Oriental Publication Fund to the amount of Rupees 1500, to pay off Printer's bills.—

That they have adopted the following recommendations of the Philological Committee.

1. The Philological Committee recommend that Mr. J. Beames be permitted to edit the poems of Chand for the Bibliotheca Indica; that he be requested to embody the different readings of the Benares and Agra MSS. in the results of his collation of the two MSS., consulted by him in England, and that the Government of the N. W. Provinces be requested to sanction the lending to Mr. Beames of the Agra MS., now in the keeping of the Society;—that when the copy of the Baidlah MS. is received, it be put at his disposal for collation.

2. The Committee also recommend that the following works be published in the Bibliotheca Indica:—

a. Tándya or Panchaviñśa Bráhmaṇa of the Sáma Veda with commentaries, to be edited by Paṇḍita Anandachandra Vedántavágis'a.

- b. Lāṭhyāyana Sutra with commentaries, to be edited by the same.
- c. The smaller Upanishads with commentaries, to be edited by Paṇḍita Rāmahmāya S'īromāṇi.
- d. Gobhila Sutra with commentaries, to be edited by Paṇḍita Chandraśānta Tarkālakāra.
- e. Vāyu Purāṇa, to be edited by Bābu Pratāpachandra Ghosha.
- f. Agni Purāṇa.

And that MSS. of the commentaries of the Gopatha Brāhmaṇa of the Atharva Veda be solicited from the Madras College Library through the Director of Public Instruction, Madras, and that other measures be taken to procure the MSS. of Vṛiddha Parāśara Smṛiti and Vyavahāra Tilaka.

Bābu Rājendralāla Mitra writes on the subject, as follows :—

“Owing to the departure of Mr. Cowell from this country, the death of our late indefatigable editors, Paṇḍitas Rāmanārāyaṇa Vidyāratna and Premachānda Vidyāvāgis'a, and some other causes, the Sanskrit department of the Bibliotheca Indica has been, for the last three years, progressing very slowly, and the expense per annum, instead of coming up to half the amount of the annual grant of Rs. 6000, has seldom exceeded Rs. 2,000. It is desirable therefore, that measures should be taken to give a fresh impetus to the department, by the employment of a body of new editors, and the commencement of a new series of works. This is the more necessary, as the recent Government grant of Rs. 3,000 per annum, renders it obligatory on us, to send such a number of works to press as will involve an expenditure of at least five to six thousand Rupees a year.

“The works now in the press, with three exceptions,* are all near completion, and the excepted works, owing to their nature and the scant leisure of the editors, are not likely to be printed very rapidly, nor cost more than Rs. 1000 a year. Indeed, as a general rule, Sanskrit editors, whether European or Indian, have not, within the last ten years, brought out more than 2 to 3 fasciculi of the Bibliotheca Indica a year, and as each fasciculus, at an average, costs about Rs. 300, it will be necessary to send at least ten differ-

* Taittiriya Sanhitā, edited by Professor Mahes'achandra Nyāyaratna.

Mimāṃsā Darsana, do. do.

Kāmandakiya commentary, edited by Paṇḍita Jagannomhāna Tarkālakāra.

ent works to the press to keep up our expenses to the amount stated above. Accordingly I beg to propose the following, in addition to those which are now in hand, for the consideration and approval of the Philological Committee.

“The works to which our attention should be first directed, according to the Government letter, are the Vedas. Of these a Sañhitá and a Bráhmaṇa each, of the Rig and the White Yajurs, have already been published in Europe, and a Sañhitá and a Bráhmaṇa of the Black Yajurs are in a forward state in the Bibliotheca Indica; the Bráhmaṇa awaiting only an *Index* for completion. Of the Sáma, Mr. Stevenson has published a Sañhitá, and of the Atharva, Drs. Roth and Whitney have likewise published a Sañhitá, but no Bráhmaṇa of either of those works has as yet been printed. I am of opinion, therefore, that the Committee should first take up the Bráhmaṇas of those Vedas.

“According to Sáyana Achárya eight Bráhmaṇas of the Sáma Veda are still current,* and of them the *Tándya*, otherwise called the *Panchaviṃśa Bráhmaṇa* is the largest and most valuable. It embraces the whole liturgy of the Sáma Veda, and a great number of traditions which cannot fail to be of interest to the oriental scholar and the Indian historian. MSS. of this work are easily accessible; the Society has two good ones in its possession, and there are four in the Library of the Sanskrit College of Calcutta, one of which is three hundred years old. The Benares College has one, and I expect another from Professor Pickford of Madras. Three commentaries are likewise available; and these, I believe, will suffice for a carefully collated standard edition of the text and comment. Paṇḍita Anandachandra Vedántavágis'á, the chief priest of the Bráhma Sabhá, is willing to undertake the work at the same rate at which he has lately edited the *Asvaláyana Sūtras* for us, (*viz.*, 1 Rupee per page), and I think him to be fully qualified to do justice to it.

“Of the Atharva Veda, the most important, and perhaps the only extant, Bráhmaṇa is the *Gopatha*. Professor Kuhn of Berlin has lately urged Mr. Whitley Stokes to exert his influence in getting it printed, and Mr. W. Stokes has written to me, expressing his earnest wish that the Society should have the needful done, if possible.

* Vide my Introduction to the Chhándogya Upanishad, and Max Müller's Sanskrit Literature.

MSS. of the work, however, are very scarce. The Society has an only copy, and that a very imperfect one; and I have lately got another from Benares, but that also is incomplete. The work besides is very difficult to understand, and no editor in Calcutta, that I know of, can do justice to it without the aid of a commentary. It would be necessary, therefore, should the Committee resolve upon printing it, not only to procure more MSS. of the text, but also codices of two or three commentaries. Mr. Burnell of the Madras Civil Service once wrote to me, that he had a copy of the commentary, but as he is now in Europe, I cannot get the loan of it. There is one, however, in the library of the old Madras College, and this may be obtained through the Director of Public Instruction at Madras, or the Secretary to the Madras Government.

“As sequels to the Bráhmaṇas, the Upanishads come next in order. According to the most recent calculations, there are between 130 and 140 of them still extant, of which MSS. between 70 or 80 only, are accessible in Calcutta. When Dará Shikoh prepared his Persian translation, he could obtain only 60, and Dupetron, in the last century, got no more. The Society has published only 12 out of the number now available, and the remainder therefore may be sent to press to advantage. Professor Max Müller strongly recommended them in a letter published in the Journal for 1862; and as they are mostly very small, not more than 8 or 10 to 20 pages in extent, they are not likely to occupy more than two fasciculi of the Bibliotheca, nor cost at the outside more than 7 to 8 hundred rupees. Professor Ráma-maya S'íromani of the Calcutta Sanskrit College is willing to edit them at the usual rate.

“Next to the Vedas stand the Sūtras, and of them I have to propose two, viz. the *Lāṭhyáyana* and the *Gobhila-grihya* Sūtras of the *Sāma* Veda. They are both founded on the *Tāṇḍya Bráhmaṇa*, and for antiquity and interest stand high in rank. MSS. of both are easily accessible, and they may be at once taken up. Pandita Chandrakānta Tarkálankára of Mymensing has offered to edit the last, and I would suggest that his offer be accepted. He is a profound Sanskrit scholar, and will not fail to acquit himself creditably in the undertaking. The work will fill just one fasciculus, and cost about 250 Rs.

“As the *Lāṭhyáyana Sūtra* is a sort of exegesis of the *Tāṇḍya*

Bráhmaṇa, Pandita Anandachandra will, perhaps, find it convenient to edit it along with the Tāndya.

“Mr. Griffith has lately suggested that the Society should carry on the continuation of the *Mahābhāṣya* from the place where Dr. Ballantyne dropped it, and Professors Bāla S'āstrī and Rājārāma S'āstrī have since expressed their willingness to undertake the work.

“As to the importance of the work as the great store-house of Sanskrit philology, there can be no difference of opinion. Nor can there be a question as to the propriety of the Society undertaking it, for it is certain that no private enterprize will ever take up so voluminous and at the same time so unsaleable a work. But it will have to be decided whether it ought to be printed from the place where Dr. Ballantyne stopped, or begun from the commencement. Dr. Ballantyne printed about one-third of the work on 808 folia, and it would effect a saving of over 3000 Rs., if we follow him. But on the other hand, he adopted the old Indian *puṭhi* form, and we must, for the sake of uniformity, give up our handy 8vo., and agree to unwieldy oblong loose sheets which will no where be welcome. Dr. Ballantyne's edition, besides, is out of print, and new purchasers of our edition will be called upon to accept a book which they can never get completed.

“The portion that remains to be printed will fill about 1600 octavo pages, and cost Rs. 5000. If we print from the beginning, the cost will be about Rs. 8000 payable in five or six years.

“MSS. of the work are very scarce, except at Benares, where there are several teachers of the *Bhāṣya*.*

“Of works on law, I would suggest the *Vṛiddha-pārsara Smṛiti* and the *Vyavahāra Tilaka* of Bhavadeva. The former is an authoritative text-book, and the latter a scarce and very learned compilation. Should we resolve upon printing them, measures should be taken to procure MSS. I know of only one MS. of the latter in Calcutta.

“Professor Max Müller, some time ago, recommended the *Vāyu Purāṇa* as the oldest and most interesting of the *Purāṇas*. Our Assistant Secretary, Bābu Pratāpachandra Ghosha, is willing to undertake it, and as MSS. of it may be had in abundance, I would suggest that it be at

* Since writing the above, I have learnt that the work has already been sent to press at Benares under the auspices of His Highness the Mahārāja of Vizianagaram.

“Again several works are known by one common name, such as *Muktāvali*, *Ratnāvali*, &c., and as the names of their authors are not often known, or not given in the MSS., they cannot but be mistaken. Synonyms too are in common use to indicate the same work; thus the *Venisañhāra* of Bhaṭṭanārāyaṇa is in the North West often called *Venisañvaranam*, and the well known *Chandī* of Bengal is, in Kashmir, and in some parts of the North West, called *Durgāpāt* or *Durgā*. In such cases, the initial line can be our only guide.

“Should the Committee agree with me as to the importance of having the two additional columns above suggested, it would be necessary, for the sake of uniformity, to bring them to the notice of Government, in order that they may be sanctioned, and the Governments of Madras, Bombay, &c. may be apprised of the same.

“With regard to copyists, it would be more economical to employ section-writers at 4 Rs. the thousand slokas of 32,000 letters, than paying them by the month. Recently I had occasion to employ a man at 15 Rs. a month to transliterate a MS. from Uria into Nāgarī, and he took $2\frac{1}{2}$ months = Rs. 37-8 to finish the work. Had I employed him at the usual rate of Rs. 4 the thousand slokas, he could not have got more than 10 Rs. for the job. The quality of the work would have been in either case very much the same. Of course there should be an exception in the case of the pandit who may be employed to amalgamate the several lists that will be received from time to time, and prepare copies for the press. Such works cannot be well done by section-writers and, therefore, a man on monthly wages should be engaged. He should devote his leisure hours to the copying of MSS.”

The following communications were received—

From Mr. A. C. Carlyle, curator of the Riddell Museum at Agra, an account of the reading of an inscription, different from that formerly recorded by the same author.

A letter from the Government of India, Home Department, forwarding a copy of the papers regarding the geological action on the coast of Kattiwar and the Runn of Cutch.

Indian Proverbial Philosophy by F. S. Growse, Esq., M. A., Oxf.

The Librarian reported the receipt of the following manuscripts purchased for the Society by Bābu Rājendralāla Mitra during a late tour in

the North West. The collection includes 188 works, no less than 103 of which relate to or are portions of the Vedas. A great many of them are no doubt *paddhatis* or manuals for the performance of ceremonies, but they are therefore not the less useful, inasmuch as those ceremonies have now become obsolete, and a knowledge of their rituals is necessary for a correct understanding of the Vedas. Next to the Vedas the Smritis are the best represented in the collection, there being 21 MSS. on the subject. Then of the Vedānta there are 12 MSS.; of the Nyāya 7; of the Mīmāṃsā 8; of Grammar 5; of the Tantras 9; of Poetry 10; of Astronomy 4; and of the Purāṇas 3. Most of the MSS. are new to the Library, and the few that are duplicates are desirable on account of their age, accuracy or completeness. Several of these have been read by generations of Paṇḍitas, and have had the benefit of their corrections.

सङ्ख्याः ग्रन्थनामानि । ग्रन्थकारनामानि । शास्त्रनामानि । अक्षरभेदः पत्रसंख्याः

१२२८	वृहत्साम्यविवरणम्	जयतीर्थभिक्षुः	वैदिक.,	न० ७२
१२२९	प्रमाणलक्षणटीका	जयतीर्थभिक्षुः	वैदिक.,	ना० ४९
१२३०	सामप्रयोगः खण्डितः	.. ..	वैदिक.,	ना० १०
१२३१	मिताक्षरा वृहदारण्यकव्याख्या	नित्यानन्दा अममुनिः	वैदिक जा०	८०

आरम्भे पत्रद्वयं ६ पत्रपरि १२

पत्राणि ५९ पत्रपरि १७ पत्राणि च न सन्ति ।

१२३२	धर्मप्रकाशेनृगसनप्रयोगः भट्टशङ्करः	स्मार्तः	ना० २४७
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१३१ पत्रोपरि १३३ पत्रं नास्ति

३३६ पत्रोपरि ५ पत्राणि च न सन्ति

३४२ पत्रोपरि १ पत्रं नास्ति

१२३३	प्रपञ्चसारसङ्ग्रहः	तान्त्रिक	ना० १०६
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१२३४	पिण्डपितृप्रयोगः	चन्द्रचूडभट्टः	स्मार्तः	ना० ६१
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उत्तरचन्द्रचूडीयः

१२३५	मुहूर्तमाला	रघुनाथः	ज्योतिषी	ना० ६६
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१२३६	मन्त्रभागवतं	नीलकण्ठः	तान्त्रिक	ना० ४४
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१२३७	वृत्तचन्द्रादयः	भास्करकविः	हान्दसः	ना० ३२१
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१०० उत्तरे ७ पत्राभावः

शेषखण्डितः

१२३८	ऐतरेयारण्यकभाषणः	सायनाचार्यः	वैदिकं	ना० ३५
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सङ्ख्याः । ग्रन्थनामानि । ग्रन्थकारानामानि । शास्त्रनामानि । अक्षरभेदः पत्रसङ्ख्या				
१२३९	गृह्यसूत्रम्	शाङ्खायनः	वैदिक,,	ना० २८
	षोडशपञ्चोत्तरं			
	एकपत्रं खण्डितं			
	शेषखण्डितम्			
१२४०	सूत्र्यादिपञ्चायतन-			
	स्थापनपद्धतिः	दिवाकरं	वैदिक,,	ना० ६७
१२४१	स्थालोपाकप्रयोगः	कमलाकरभट्टः	धर्मशास्त्रं	ना० ३१
१२४२	आपस्तम्बोद्यदर्शपूर्णमास-		
	प्रयोगः		वैदिक,,	ना० ४८
१२४३	रुद्रानुष्ठानपद्धतिः	नारायणभट्टः	वैदिक,,	ना० ४३
१२४४	आपस्तम्बीयजातकर्म	बोपभट्टः	वैदिक,,	ना० २१
१२४५	संस्कारकौस्तुभे ग्रह्य-			
	ज्ञनिरूपणम्	अनन्तदेवः	वैदिक,,	ना० ६७
१२४६	शान्तिशारे वास्तुशान्तिप्रयोगः	दिनकरभट्टः	स्मार्तः	ना० २८
१२४७	तर्कप्रकाशः			
	शेष खण्डितः		नैयायिकः	ना० ५१
१२४८	प्रयोगतन्त्रप्रायश्चित्तप्रकरणम्		वैदिक,,	ना० ५०
१२४९	जलभेदटीका			
	४ पत्रं नास्ति । ९ पत्रं नास्ति श्रीकल्याणरायः	वेङ्कट,,		ना० १३
१२५०	सन्यासपद्धतिः शेषखण्डिता	स्मार्त,,		ना० २४
१२५१	न्यायमिहान्तमञ्जरीदीपिका	श्रीकण्ठः	न्याय,,	ना० ५९
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१२५५	सिद्धान्तसंश्लेषसङ्ग्रहसारः	मीमांसा ना,, मु०	३८
१२५६	विवाहभेलवाणीविधिः	स्मार्त,, ना०	३६
१२५७	कृत्यचिन्तामणिः	शिवरामः धर्मशास्त्रम्	ना० २३०
१२५८	सामवेदसंहिता	वेद,, ना०	६०
१२५९	सामवेदसंहिता		

पूर्वाचिकं

वेद,, ना० ५८

१२६०	प्रयोगचिन्तामणिः		
	आदि अन्तखण्डितः	खनन्तभट्टः वैदिक,,	ना० १९

१२६१	अग्निष्टोमः		
	शेषखण्डितः	वैदिक,, ना०	४४

३६२	हृत्पिदीपव्याख्या		
	आद्यन्तखण्डिता	श्रीरामकृष्णः वेदान्त,,	ना० ६१

१२६३	वेदान्तसूत्रव्याख्या		
	आद्यन्तखण्डिता	वेदान्त,, ना०	१०

१२६४	यज्ञकुण्डचक्राणि	वैदिक,, ना०	१०
१२६५	सर्वतोभद्रचक्रम्		१

१२६६	दुर्गावतीप्रकाशः		
	समयालोका वा पद्मनाभः	धर्मशास्त्रं	ना० २३२

सङ्ख्याः । ग्रन्थनामानि । ग्रन्थकारनामानि । शास्त्रनामानि । अक्षरभेदः पत्रसङ्ख्या

१४६७	जह्मगानम्					सामवेदः,	ना० १०१
१४६८	तैत्तिरीयवार्तिकम्						
	श्रेयखण्डितम्					वैदिकः,	ना० ३२
१४६९	शब्दपरिच्छेदरहस्यम्	..	..	..	..
	आद्यन्तमध्यखण्डितम्					न्यायशास्त्रं	ना० २०४
१४७०	सोमाम्नीध्रप्रयोगः	..	..	..	..	वैदिकः,	ना० १
१४७१	परिभाषामूत्रम्				भारद्वाजः	वैदिकः,	ना० ३
१४७२	हैचप्रयोगः	..	..	..	..
	सवनप्रयोगश्च					वैदिकः,	ना० ४३
१४७३	गर्माधानप्रयोगः	..	..	..	..	वैदिकः,	ना० २
१४७४	पुंसवनप्रयोगः	..	..	..	..	वैदिकः,	ना० २
१४७५	जातकम्प्रयोगः	..	..	..	..	वैदिकः,	ना० ४
१४७६	सोमन्तोन्नयनप्रयोगः	..	...	..	..	वैदिकः,	ना० ७
१४७७	नामकम्प्रयोगः	..	..	..	..	वैदिकः,	ना० ३
१४७८	अन्नप्रासनप्रयोगः	..	..	...	..	वैदिकः,	ना० ५
१४७९	षष्ठीपूजाविधिः	..	..	..	..	वैदिकः,	ना० २
१४८०	निष्क्रमणप्रयोगः	..	..	..	..	वैदिकः,	ना० २
१४८१	कर्णवेधप्रयोगः	..	..	..	..	वैदिकः,	ना० २
१४८२	प्रवासविधि	..	..	..	..	वैदिकः,	ना० ३
१४८३	चूडाकम्प्रयोगः	..	..	...	..	वैदिकः,	ना० ६
१४८४	अवस्थाधानम्	..	..	..	..	वैदिकः,	ना० १८
१४८५	वेदारक्षप्रयोगः	..	..	..	..	वैदिकः,	ना० १
१४८६	उपनयनप्रयोगः	..	..	..	..	वैदिकः,	ना० ३८
१४८७	विवाहपद्धतिः	..	..	..	..
	चतुर्थीकम्प्रत्यन्ता					वैदिकः,	ना० ३९
१४८८	नान्दीश्राद्धप्रयोगः	..	..	..	..
	आद्ये १३ पत्राणि खण्डितम्					वैदिकः,	ना० २३
१४८९	अभिषेकप्रयोगः	..	..	..	..
	खण्डितः					वैदिकः,	ना० ४
१४९०	अनुष्ठानम्	..	..	..	..	वैदिकः,	ना० १
१४९१	पुण्याहवाचनम्	..	..	..	..	वैदिकः,	ना० ५
१४९२	अग्निष्टोमः, मधुपर्कः	..	..	..	..
	आद्ये १० पत्राणि नसन्ति					वैदिकः,	ना० १३

सङ्ख्या । ग्रन्थनामानि । ग्रन्थकारनामानि । शास्त्रनामानि अक्षरभेदः पत्रसङ्ख्या

१३९३ अपराध सुन्दरसोत्रम् शङ्कराचार्यः काव्यम् ना ३

१३९४ तन्त्ररत्नम्

४ चतुर्थ्याध्यावावधि

९ नवमाध्यायपर्यन्तम्

१० दशमाध्यायस्य प्रथ-

मपादोऽखिततदुपरिनास्ति

११ । १२ । अध्यासोऽस्ति ६३

तन्त्राध्ये १८ पत्रापरि ४२१

१ पत्रं नास्ति सारार्थमित्रः तन्त्रः, व० ३४७

१३९५ वेदान्तकल्पतरुपरिमलः अप्यय्यदोक्षितः वेदान्तः, २९

१ प्रथमाध्यायस्य २९ पत्रं

आयन्तं खण्डितम्

२ तृतीयाध्यायः सम्पूर्णम् ११०

१०८ पत्रापरि १ पत्रं नास्ति

तदुपरि ७४ पत्रमध्ये २ पत्रं ७४

खण्डितं २१३

१३९६ काशिकाट्टिः

१ प्रथमाध्यायस्य १ पादः

२ अध्यायस्य चतुर्थपादः ४९

तृतीयाध्यायः सम्पूर्णः ३९

१ प्रथम अध्यायस्य चतुर्थपादः

२ प्रथमाध्यायस्य चतुर्थपादः ४९

तृतीयाध्यायः सम्पूर्णः १७

१ प्रथमाध्यायस्य द्वितीयतृतीयपादः ३३

६ पठाध्यायस्य १ पत्राणि आकरणः, ना० २०

तदुपरिनास्ति

१३९७ आश्वलायन सूत्रट्टिः

६ अध्यायपर्यन्तं १ खण्डः

७ अध्यावावधि १२ अध्याय ७०

पर्यन्तं २ द्वितीयखण्डः नारायणः वैदिकः, ना० ९६

१३९८ वेधायनोद्यमशुद्धदोषिका

तृतीयाध्यायपर्यन्ता द्वारकानाथः वैदिकः, ना० ६३

१३९९ मित्रा

११ । १२ पत्रं नास्ति वैदिकः, ना० १५

सङ्ख्याः ।	ग्रन्थानामानि	ग्रन्थकारनामानि ।	शास्त्रनामानि ।	अवरभेदः	पत्रसङ्ख्या
१४००	यज्ञप्रायश्चित्तम्		वैधायनः	वैदिकः,	ना० २२
१४०१	वेणीसम्बरणम्	.. ..	वेणीसंहारः	काव्यः,	ना० २१
१४०२	आपस्तम्बोपाकर्मप्रयोगः	.. ..		वैदिकः,	ना० २५
१४०३	प्रतिशाख्यम्	.. ..		
	द्वितीयाध्यायस्य				
	षष्ठपटलपर्यन्तम्				
	आद्ये २ पत्रं नास्ति				ना० ५४
१४०४	सौत्रामणोः	.. ..		
	१९ अध्यायपर्यन्तम्			वैदिकः	ना० २७
१४०५	तैत्तिरीयश्रुतिवर्तिकम्	.. ..		वैदिकः,	ना० ६७
१४०६	रूपावलिः				
	खण्डिताः	.. ..		व्याकरणः,	ना० ११
१४०७	पशुवन्धः वैधायनीयः	.. ..		वैदिकः,	ना० २४
१४०८	शिखा	.. ..		वैदिकः,	ना० ८
१४०९	कालज्ञानम्	.. ..		ज्योतिषः,	ना० ४
१४१०	प्रातिशाख्यम्		कात्यायनः	वैदिकः,	ना० १६
१४११	समासचक्रम्	.. ..		व्यकरणम्	ना० ९
१४१२	कन्दोपन्यः	.. ..		वैदिकः,	ना० ८
१४१३	क समासचक्रम्	.. ..		व्याकरणम्	ना० ४
१४१४	ख नारायणेपनिषद्	.. ..		वेदः,	ना० ७
१४१५	नारायणेपनिषद्	.. ..		वेदः,	ना० ३
१४१६	वाक्यसुधासोत्रम्		भङ्कराचार्यः	काव्यः,	ना० ३

The following papers were read—

I. *Notes on an Arian inscription*, by E. C. Bayley. Tracings of the inscription were laid on the table. They were taken from a copper plate found by Capt. Stubbs, at Sue Vihār, near Bhāwalpūr and forwarded to Mr. Bayley. Application for the loan of the plate will be made in order that a fac-simile of it may be published in the *Journal* together with Mr. Bayley's reading. A most interesting point connected with this inscription is that the names of the Macedonian months were in use in some parts of India.

II. *Notes on Western China*; by T. T. Cooper, Esq.

If we include in Western China that part of Tibet, lying to the east of the Kinchar Kiang, and extending to the banks of the Tar-tow-

ho, then with the golden sands of the Yarlång and Kinchar rivers, the silver, tin and copper mines of Western Yunnán, and the mineral wealth of Szchuan, we speak probably of one of the richest countries in the world, while the prolific soil of these two provinces proclaim Western China to be the garden of Central Asia.

The veil of mystery which has for so long surrounded this part of China (unlifted as yet save by the individual efforts of the good Abè Hüc), seems with the advance of European nations in their march of civilization about to be torn aside, to give light to the millions of Central Asia. When the fierce Mongol roaming in quest of plunder shall halt, commanded by the powerful voice of Western knowledge and science, when the superstitious teachings of the crafty Láma shall give place to the voice of God, as spoken to man through the great Teacher Christ, then the fruits of the country shall give forth their increase, and the people be freed from the yoke of tyranny.

As in speaking of "countries" of the world, it is generally understood that we mean parts of the earth's surface inhabited by distinct races or peoples, and draw the boundaries generally as near as possible round the space inhabited by each race or people, being guided in doing so by the distance to which their language and customs extend. In defining the Western boundaries of the great province of Szchuan we must commence about Lat. $30^{\circ} 20' N.$ and Long. $102^{\circ} 5' E.$ Travelling down the west bank of the Tar-tow-ho, and continuing almost due south until we strike the Yangtzu, about 80 miles west of the Min river, all the country to the west of this, following the bend of the Kinchar Kiang to where it turns north,—and crossing the Lantsan Kiang, Now-Kiang and Irrawadi rivers in a straight line to the borders of Assam, and north of this point to the borders of Tibet which commence about Lat. $27^{\circ} 45' N.$, and thence in a N. E. direction back to the Tar-tow-ho,—is inhabited by tribes tributary to China and Burmah. Amongst the former are:—

The *Lo-Los* inhabit a strip of country to the west of the Tar-tow-ho, as far as the borders of Tibet; and then to the south of that as far as the Yangtzu the country is occupied by a tribe of Tibetans, a name indiscriminately given by Chinese in the west to all the self-governing tribes beyond the borders; then from the boundary of Tibet, commencing at

Artenze, situated about Lat. $27^{\circ} 50'$ N. and Long. $96^{\circ} 30'$ E., and following the banks of the Lan-tsan-Kiang as far south as Lat. $26^{\circ} 40'$ N. are the following tribes : Mosos, Leisus, Mooquors, Yatzus, Chudzus and Trefans. Then between the same latitudes the country between the Lan-tsan-Kiang and Now-Kiang rivers is inhabited by the wild and powerful tribe of Ludzus who are the terror of all the tribes above enumerated. Beyond the Now-Kiang to the west as far as the borders of Assam, the tribes are mostly tributary to the kingdom of Burmah.

Of the three great highways leading from the eastern seaboard to Western China, *viz.* from Canton to Yunnán, through the provinces of Kwang-tung and Kwangse : from Shanghai to Szchuan *via* the Yangtzu, through the provinces of Kiang-tzu, Ngan-hoei and Hoopa ; and from Peking to Chentu, the capital of Szchuan through the provinces of Petcheli-chan-si and Chen-si, that of the Yangtzu, with the advantage of water-carriage, is certainly the most important, leading from the east.

We all know how that by the magnificent steamers, at present running between Shanghai and Hankow, a traveller is hurried away through the two great provinces Kiangtzu and Ngan-hoei, and in the space of three days landed in Hankow, having without a single effort beyond enjoying to his utmost the comfort and hospitality on board these splendid vessels, travelled some 600 miles ; but few know what it is to exchange these floating palaces for the native crafts used as a means of conveyance between Hankow and the upper waters of the Yangtzu. There may be said to be two distinct classes of conveyances between Hankow and Szchuan—the one used exclusively for passengers and the other for cargo. Under the first class the Mandarin Junk, a large unwieldy craft of nearly one hundred tons burthen, highly ornamented and gilded inside, and used almost exclusively by Mandarins travelling up and down the river with their families, may be said to take first rank as to comfort ; and next to it, a boat about 50 tons burthen called Passenger Junk ; and, lastly, the little boat generally a long canoe-shaped despatch craft, some 40 feet in length, covered, with bamboo mats, and propelled by two men in the bow and one in the stern. These boats, built of wood which grows in the district of Wa Chien are of such toughness as renders them almost indestructible, and are by far the quickest means of conveyance, but at

the same time most inconvenient for creeping along the rocky banks of the river; they are continually thumping on sunken rocks in such a manner that at a very early period a voyage to Szchuan is calculated to destroy the nerves of the most courageous traveller.

Amongst the cargo carrying craft, that known as the Szchuan Junk is conspicuous from its great size and comfortable little cabin near the stern, in which the adventurous Szchuan merchant, during the three months' voyage from Hankow to Chung Ching, spends his days, inhaling the energy-destroying fumes of opium. The next most conspicuous are the charcoal and straw boats which are larger than the so-called Szchuan Junks, are loosely put together and loaded to a depth that would deter any one, but a careless indifferent Chinaman, from travelling in them; these are sent down to Hankow with charcoal, fruit, and a peculiar kind of straw, used in the manufacture of spill paper, and on arrival are broken up and sold for fire-wood, the expense of taking up so large a boat against the current amounting to more than the price of a new one in Szchuan.

Having described the means of conveyance on this great artery of commerce, I proceed to describe the road itself as far as Chentu, the capital of Szchuan. Embarking at Hankow, the traveller suddenly finds himself (after passing the city of Hanrang on the left bank) ascending the swift current of the Han, and after a day's tedious journey up this river enters the chain of lakes through which he follows a westerly course for 8 or 10 days, as far as Sha-su on the left bank of the Yangtzu; having, by taking the lake route, cut off the bend of the great river above Hankow. Embarking at Sha-su on board a river boat, he ascends the broad and swift current as far as Ichang on the left bank, passing which a few miles above he enters the Ichang gorge, the first of the celebrated Yangtzu gorges, and leaves behind the plains of Hoopoh which here give place to hills, running generally N. E. and S. W., increasing in height and splendour, until they attain a climax in the snowy mountains of Tibet. Continuing up this gorge some 20 miles passing ever and anon deeply laden Szchuan Junks, rowed by boatmen, whose wild but cheerful song runs in a hundred echoes along the precipitous sides of the gorge, he comes to the first rapid, and having been safely towed up this, he may be said to have undergone his initiation in travelling the upper Yangtzu. Passing on

from this, a few days' journey brings him to Pah-tung, the last town in Hoopoh, famous for its potatoes; and here for the first time he sees coal of an inferior quality, deficient in bitumen and very slaty. Passing on from this through the Lukan gorge in a few days he reaches Quifoo, the principal customs station in the province of Szchuan and meets perhaps his first annoyance in the insolence and extortion of the custom house satellites whom he is obliged to fee prettily heavily before he can get away. This city, from its importance, as a customs station, and the monopoly of a large salt trade takes foremost rank amongst the cities on the Yangtzu between Hankow and Chung Ching, and from the good coal procured in great quantities in its neighbourhood deserves the attention of Western nations as a Port of call for steamers.

Having got rid of the customs officials here, the traveller continues on through the Mitan gorge and then beyond, for the first time, sees in the river banks a specimen of the beauty and fertility of the garden-like Szchuan. The banks where they slope down to the water are covered with rich crops of sugar and higher up in the back ground snug little whitewashed cottage-like houses, nestled among the hills, throw round the country a home-like air; and in early spring the country inland is white with the poppy flower. Amidst country like this, varied occasionally by the solemn grandeur of gorges, the traveller in about 40 days, after leaving Hankow, arrives at Chung Ching, the great trade emporium of Western China.

To all lovers of travel, the journey up the Yangtzu to Chung Ching affords a pleasant field for observation and excitement; its dangerous rapids, whirls and eddies, and magnificent awe-inspiring gorges, lend to it that charm which enchants the enthusiastic traveller, and serves to enliven what would otherwise be a tedious voyage. And then to the geologist, the field for observation is most extensive, especially along the gorges, where the perpendicular rocks, forming their sides, show to perfection the geological formation of the country; in many of the gorges will be seen a reddish grey sandstone with its exposed surface glazed, as though it had been polished with black lead. This sandstone attracted the special attention of Captain Blakiston, the first explorer of the Yangtzu, and he speaks of it as one of the greatest geological curiosities he met with during his expedition, and

I have certainly never in any part of the world seen the same feature in sandstone, while as far as I was able to observe, the stratification is very varied, consisting of Tufás, red and gray sandstones, granite, limestone, shale and many others, the name of which, being uncommon, I am ignorant of; red sandstone and a kind of loose flaky magnesian limestone appearing the most common; the latter in many places, however, I hesitate to call limestone, though it is more like that formation than any other I know of.

On arriving at Chung Ching, the traveller may know at once by the number of junks, bustling activity of the people and general well-to-do look of the city,—to say nothing of the never ending stream of coolies carrying merchandize,—that he has arrived at a great trading mart. Raw cotton from the lower Yangtzu is continually being discharged from the junks lying along the river, while foreign piece goods meet his eye at almost every turn, nearly every other shop displaying these goods for sale. Raw cotton and cotton piece-goods form the principal imports, but foreign glass and crockery-ware, judging from the number of shops engaged in the sale of these articles, appear to find a large market in Chung Ching, while sugar, hemp, tobacco, silk and native medicines (this last article in incredible quantities) are the principal exports.

Chung Ching besides being the great Western mart of trade, is financially the city of greatest importance in the west of China. Here the pay of the Frontier army is regulated, as also the pay of the Government staff of Szchuan. The customs dues of the whole province find their way here, and so great is the fame of Chung Ching wealth in China, that the specie in common use there is at a great premium, and the merchants have their agents north, south, east and west throughout the empire. Such is the famous Chung Ching, the Liverpool of Chinese trade, and it is to be hoped that Western commerce and energy will soon find their way to her, unfettered by the extortion and exclusive pride of worthless and ignorant mandarins.

Leaving Chung Ching and continuing up river, a journey of 7 days, brings the traveller to Swifoo (Souchowfoo), a large city, situated at the mouth of the Min river, of considerable importance as a tribute station to which many of the tribes, immediately to the west of the Min annually repair with tribute; it is also the last city

of consequence on the upper Yangtzu which ceases to be navigable about 160 miles above this point. Entering the Min at this city, and following its broad waters for 5 days, the famous city of Kiating is reached, the centre of the so-called vegetable wax and silk country. This city, famous throughout China, not so much for its great trade, (as it is really little more than a transit station), but as the resort of pilgrims to the great Omeeshau, the centre of Bhuddism in China, two days' journey from Kiating to the west, the fame of its temples and the blessing givings of gods, draws thousands of pilgrims from all parts of the empire, Tibet and even Burma. The Chinese say that this large peaked mountain ever shows on its sides the four seasons of the year: spring, summer, autumn and winter, and this is not improbable, as the mountain is clearly visible at Kiating and appears to be of enormous height.

From this city the river branches off to the east and north-west, that to the west taking the name of Tar-tow-ho, and that to the east King-Kiang, following which for 5 days Chentu, the great capital, situated in the fertile plains of Szchuan, is reached. This city containing on a rough estimate about 800,000 inhabitants is the Paris of China, the numbers of civil and military Manderins located here, are astonishing, and give to the place quite an aristocratic air; it, however, has little trade, save in articles of luxury, such as embroidered silks, (from the district of Kiateng), musk from Tibet, jade from Yunnan and a local supply of foreign articles from Chung Ching. At this capital, the route from Peking joins the grand route from Szchuan to Lassa, the jurisdiction of the viceroy extending to Bathang and nominally to the Tibetan capital, Lassa.

I have described Chung Ching, the great central trade mart of Western China, and the route from this to the capital of Szchuan which runs through the richest part of the province, and in doing so, I should have mentioned that at Ludzow, a large city some 5 days' journey above Chung Ching, there is an enormous trade in Salt and Lead, the former finding a market at Chung Ching principally, and the latter at Kiateng; the cities of Wootung Chow-che-wachin and Kiateng on the Min and Kung-yar-chen, on the Tar-tow-ho, about 50 miles above the latter city forming the outlets by which the silk, wax, tobacco and sugar of this rich part of the province find their way to Chung Ching.

Previous to the Mahomedan war which broke out in Yunnán some 14 years since, an enormous trade was carried on between Burmah and Taili, the present Mahomedan capital of that province. Starting from Bhamó on the Irrawadi river, hundreds of caravans consisting of thousands of mules laden with raw cotton and cotton piece-goods annually found their way to Taili, but until within the last 3 years that trade has been entirely destroyed; since then, however, a fair trade has sprung up, receiving but a slight check in the beginning of the year 1868, owing to a civil war which broke out amongst the wild tribes on the borders inhabiting the hill country which forms the boundary between Yunnán and Burmah. This route in influencing the trade of Western China will soon become a serious rival to the trade at present existing between the eastern sea-ports and Szchuan, and can only be successfully combated by the opening of Chung Ching as a port to which steamers may run; but, in the event of steamers plying to Chung Ching, Burmah can never hope to influence the trade of Szchuan. Considering the great wealth of Szchuan, it is but natural to suppose that the appearance of the country and people, would indicate in some measure its prosperity, but beyond the luxuriant crops always to be seen throughout the year, such is far from being the case; even in the most thriving districts of Chung-ching, and Chentu, every city shows dilapidated and ruined walls. Their public buildings, such as temples, theatres, massive gateways and yamuns, originally built in magnificent architectural style and ornamented in a manner indicating the most lavish expenditure, all show decay and neglect; even the costly and massive stone archways, built over high-roads by virtuous widows as a memorial of their departed husbands' goodness, are in decay and suffering from neglect, as though they, like every other thing of beauty in China, were works of another people. As a rule, the inhabitants appear little better off in a worldly point of view, than those of other provinces, and like the people of the Eastern lands, they are but a sad reflection of an utterly corrupt government. Bribery and falsehood have usurped the seat of truth and justice among them, a perfection of subtlety is the highest aim of their education and reason, a monstrous self-pride and selfishness have long since destroyed that sympathetic feeling which binds man to his fellow, and strengthens a people against the injustice of a

tyrannical government. The frightful extortion and absolute power of the mandarins, and their satellites, have broken their spirit so completely, that they have become utterly indifferent to the fate of their country. And lastly the curse of opium and religious superstition has brought them to a condition, the contemplation of which is truly lamentable. So conspicuous is the general aspect of ruin throughout the province, that I felt it at all times sad to realize the fact, that I was travelling amongst a people, the works of whose forefathers only stand to mark the decay of their progeny, and the gradual decline of the great Chinese Empire. China of to-day is but the remnant of a past age. The cause of internal decay hangs heavy over her; she is but the expiring embers of a once bright and beautiful fire. Shall the spark of truth and knowledge that is required to rekindle her into brightness come from the West? Let the great nations that at present busy themselves so much about her welfare, consider this question, for a truth—the saving of China *from herself*—is no easy matter to be accomplished!

The cultivation of opium in China has of late become such a serious question in connection with the demand for the Indian drug, that a few remarks on this subject may not be considered out of place here.

Hüe in his work on China makes little or no reference to the cultivation of opium, and a Reverend Father who resided in Szchuan for thirty years assured me, that when he first visited that province, and for many years after, the growth of opium was unknown, and until of late years, Szchuan has depended on Yunnán and India for its supply. The Mahomedan war cut off supplies from Yunnán, which opium is more highly esteemed than either the foreign drug, or that produced in Szchuan, and when this supply failed about twelve years since, it caused a greater demand for the foreign drug, and consequently an increased price, which soon had the effect of increasing the cultivation of the drug in Szchuan, until at this moment it forms with sugar, rice and tobacco, the principal cultivation of the province.

The present extensive cultivation of the drug in Szchuan, and the revival of cultivation in Yunnán during the last four or five years, may probably account for the sudden decrease in demand for the Indian drug in Western China.

His Excellency, the Nepálese ambassador brought with him to Chentu several hundred boxes of Indian opium, which he was unable to dispose of, save a few boxes bought by Chung Ching merchants for shipment to Hankow, and I believe that I was rightly informed that the people dislike the Indian drug on account of its great strength. Chinese Mandarins, coming from Lassa, invariably bring opium with them into China, purchasing it of the Nepálese merchants coming from Khatmandoo, and disposing of it to Chung Ching merchants who, I presume, find a market for it east of Szchuan.

Joining at Chentu, the great highway to Tibet, and travelling west three days through the plain of Szchuan, Yarchu city is reached; the soil of the plain is most prolific, yielding annually two crops of sugar and rice. Beyond Yarchu for two or three days, the road leads through a beautiful hilly country, very rich in iron and copper, while from this point crossing the Yanguin range of mountains to the Tar-tow-ho, the country gradually becomes a wild and sterile chaos of large peaked mountains, yielding to the inhabitants of this wretched country scanty crops of potatoes and Indian corn, upon which they principally subsist. Crossing the Tar-tow-ho at Ludinchow by means of a chain suspension bridge, 340 yards span, built about 80 years since, three days travelling in a north west direction along frightful precipices, brings the traveller to Tontseanloo, the border town of Tibet.—Here, as for the past three days, he finds himself amongst a different people, while the climate has changed to excessive cold, the surrounding hills being covered with snow for eight months during the year.

Up to this point, chairs are used as a means of conveyance, but before the traveller can prosecute his journey into Tibet, he must purchase mules, tents, watch-dogs, and a ten days' supply of food for himself and cattle. Thus equipped, he leaves Tontseanloo and in two days crosses the Jeddo range of mountains; but how different to the peaked masses of limestone in the neighbourhood of Tar-tow-ho are these mountains! For the first day the country is nothing but huge granite boulders as far as the eye can reach, but next day, on arriving at the summit of the range, every thing is changed before him, there is a sea of high grassy ranges without a vestige of a tree,—large herds of yaks and sheep dot the sides of the mountains in black and white

patches,—the wild, still grandeur of such a scene is an ample reward for the heavy and toilsome ascent. Continuing on through these ranges occasionally descending into valleys covered with yellow and white pine forests, in eight days the Tibetan town of *Lithang* is reached, situated on a very high plateau, so high that the traveller finds breathing very difficult, and after resting a day to recruit his larder with butter and flour, he is glad to leave *Lithang* with its gilded monasteries, containing about 3500 *Lámas*; and for the next ten days he travels through a fearful country of snowy mountains, the lower ranges of a bare limestone-like formation, the higher peaks covered with perpetual snow, towering into the heavens to an enormous height. During these fatiguing ten days, he crosses the *Sambar* and *Taso* snowy mountains and at the western foot of the latter, in a beautiful fertile valley, reaches *Bathang*, a Tibetan town, like *Lithang* famous for its *Lama* monasteries.

Bathang is the last town of importance in the eastern kingdom of Tibet which is nominally subject to China; there is a Chinese mandarin here who, in concert with the *Lámas*, guards the borders most zealously against the intrusions of outsiders. Thus far from *Chentu* the *Szechuan* Capital, we have travelled the grand highway leading from China to *Lassa* the capital of Tibet, and it is by this route, that some three or four million pounds of tea are annually sent to *Lassa* from the district of *Yarchu*. The tea of a very coarse description is carried on pack saddles by yaks and mules to *Lassa*, a journey occupying about four months.

From *Bathang* there is another route which leads to *Assam*, untravelled as yet by Europeans.—

Before the Mahomedan war cast its gloom over the fertile province of *Yunnán*, and while the hundreds of trading caravans annually travelled between *Bhamó* on the *Irrawadi* and *Talifoo*, the present Mahomedan capital of that province, they created a trade, the fame whereof has lived till this day, and the revival of which should form, if not the first, at least the second most important question occupying the commercial mind of England to-day. This question has already received so much attention, that I need not observe that, while it will confer immense benefit on the British possessions in *Burma*, if re-opened, it cannot be of immediate importance to our Indian possessions, and deep in this conviction I have

been engaged for the last year in seeking a route by which India and Assam could communicate more directly with China. That such a route does exist, I have ascertained, namely, from Bathang to Zy-yu, a Tibetan town at the foot of the Himalayas on the east, thence crossing the mountains to Sudyu on the Brahmaputra, a distance altogether of 180 miles, or thereabouts. This route leaving Bathang leads south-west crossing the Kinchar Kiang, Lantsan-kiang and Now-Kiang rivers, to the Tibetan monastery of Bonga, thence north-west to the Tibetan village of Song-nga, Kui-dzong in the south Pomi country, and thence west a few days to Zy-yu. (The Pomi country alluded to is part of a province of Tibet, subject to the government of Lassa, the northern half being only religiously dependent on the Grand Lâma). The road is travelled by mules carrying cargo, and occupies some twenty days between Zy-yu and Bathang, but at this moment from the warlike nature of the Mishmi tribes, and the fear entertained by the Lâmas and people of Tibet for foreigners, it presents many difficulties to peaceful intercourse, while the severe climate will probably confine communication to eight months during the year. Of this, however, I am not certain, nor am I certain that this route has not been travelled by the Catholic Missionaries in earlier years.

I have spoken of the river Yang-tzu as the great trade artery of China, and will conclude these notes with a few remarks on its great annual rise and fall.

The original cause of the summer floods which annually deluge the plain of Hoopéh, Nganlwei and Kiang-tzu, forming the valley of the Lower Yang-tzu, takes rank amongst the first scientific problems yet to be solved by western energy and learning.

That the snows and rains of the country drained by the Yar-loong-kiang and Kin-char-kiang, influence the rise of the Yang-tzu, is without doubt, but that they are the sole cause of the floods, appears doubtful.

While travelling from Wei-si in Yunnan towards Chung-ching through Bathang, Tatseanloo and the Tar-tow-ho country, I everywhere encountered floods and signs of floods, the like of which, so the people told me, had not been known for twenty years. Part of the town of Artenze on the northern border of Yunnan had been washed away, and many parts of the road which I had travelled in May and June had become channels for terrific mountain torrents, and to the east of Tatseanloo

we passed the sites of numerous villages that had been washed away entirely ; yet on striking the Yang-tzu at Swifoo in October, I was astonished to find the river had been three feet below its last year's level, though it was higher for the time of the year than last year. The rains which caused such unusual destruction in the country I have alluded to, commenced in June, and subsided towards the end of July, or beginning of August, so that the waters in the plains, which in November were higher for the time of year, than has been known for a long time, could scarcely have been influenced by the rains of the mountains, which had subsided by the middle of August, and thus I am led to infer that the cause of the floods in the plains is purely local ; perhaps the Tung-ting Lake and the Han River are the great feeders of the lower Yang-tzu.

A long discussion followed the reading of this paper.

Col. Thuillier drew the attention of the meeting to a few of the most interesting points in the account which Mr. Cooper has given of his exploration of Western China. These researches are most valuable not only in a commercial point of view, but also as bearing upon the geography of the country. He (Col. Th.) considered it the duty of every one, who had followed the explorations of former travellers in the same parts of the country, to remind Mr. Cooper of the perilous and dangerous nature of the route which he had selected for his further explorations. However, Mr. Cooper's experience in those districts, was no doubt an extensive one, as clearly shewn by his travels, and he (Col. Th.) desired to express the hope that Mr. Cooper will be able, in spite of all the enormous difficulties, to enlarge in every respect our knowledge of that country.

Col. Th. begged to propose that the special thanks of the meeting be given to Mr. Cooper for his very interesting account of his travels, and also an expression of their best wishes for the success of his further explorations.

Dr. J. Anderson in seconding Col. Thuillier's proposition, wished to ask Mr. Cooper, if he had obtained any information regarding the sources of the Irrawadi. Dr. A. put this question because he had made special inquiries during his stay at Bhamó regarding the upper course of that river, and had been informed that the largest branch runs in a north-easterly direction. Capt. Wilcox saw, from the Patkoi range,

what he believed to be the Irrawadi, and described it as an insignificant stream. Dr. A.'s informant, however, described the eastern branch as a large river, running between high banks, and the western as a smaller one. Dr. A. was inclined to believe that what Wilcox saw was merely this branch, and not the main stream which most probably rises far to the north of Capt. Wilcox's position.

While at Momein Dr. A. also made particular enquiries regarding the size of the Salween, the course of which was indicated by the lofty Saychan range of hills, about 15 to 20 miles from Momein. The information was to the effect that the river was a very small stream. The Camboja, however, was described as a broad and deep river between high and precipitous banks, and the Pekin highway is said to cut it by a chain suspension bridge. The Salween thus not stretching so far to the north, as is usually represented on our maps, it is possible that the large stream heard of by Mr. Cooper, may have been the eastern branches of the Irrawadi. Mr. Cooper's opinion on this subject, Dr. A. thought, would be very valuable.

Col. Th.'s proposition was favorably responded to by the meeting.

Mr. Cameron made a few observations regarding the people of Eastern Assam: he believed that travelling in those districts is most dangerous, especially in the country of the Mishmi tribes.

Mr. Cooper said that he had no direct observation, or reliable information, as to the upper course and the sources of the Irrawadi, but he himself was of opinion, that its sources lie much further to north, than they are usually indicated on our maps. On a small route map, which he (Mr. Cooper) had lately prepared, he marked the course of the Irrawadi much above the latitude of the Patkoi range towards the North, coming from Eastern Tibet.

Mr. Cooper thanked the meeting for the kind reception and encouragement which he had received, and said that he is ready and prepared to meet any difficulties, and undergo any hardships to do justice to the task, which he had undertaken.

Col. Thuillier considered the discovery of the sources of the Irrawadi and Bráhmáputra as one of the greatest geographical problems of the present time, but thought that Mr. Cooper's object was not exactly the discovery of the sources of rivers, but simply the opening of a direct route from India to Western China. He (Col. Th.) also stated for the information of the meeting that the pandits, trained by the

Trigonometrical Survey are at the present engaged in those parts of Tibet, and he doubted not that they will bring us ultimately a great deal of the information required on those geographical problems.

Dr. Anderson said that he had put the question as one of general interest, to elicit information on the subject; he himself held no opinion one way or another regarding the supposed relation of the Tsampô and the Brámaputra.

The Hon'ble Mr. Phear referred to the symmetry and the parallel structure of the mountain-ranges in their north-southern extensions, as exhibited on the map, and asked what the average height of these mountains in those districts of Western China was. He thought, that considering the great elevation of the country from which the Irrawadi comes, the river must either pass through a very deep gorge, or be a succession of great falls.

Mr. Cooper thought the elevation of the mountains, through which the Irrawadi flows, to be about 7,000 feet.

Dr. Anderson observed that the average height of the hill-ranges south of Bhamó was 5,000 feet, although some of the peaks were as much as 7,000 feet.

The President, in closing the discussion in which the Hon'ble Mr. Phear, Dr. Anderson, Mr. Cooper, and several other gentlemen took part, observed that the proposition brought forward by Col. Thuillier had been already so well responded to by the meeting, that it would be unnecessary to put it in any more formal way from the chair. He (the Pres.) repeated the thanks and the good wishes of the Society, and joined in the general expression of hope that Mr. Cooper's explorations might be followed by that success which his untiring zeal, courage and perseverance in prosecuting his object fully entitled him to expect. Considering the problem which Mr. Cooper had placed before him,—the opening of a direct communication between India and China and Central Asia,—the President thought that the shortest route should be examined before any other were selected.

III.—*Contribution towards the knowledge of Indian Arachnoidea* ;
by DR. F. STOLICZKA, (*Abstract*).

The author observed that few branches of Zoology had received in India so little attention as the study of the *Arachnoidea*. They unfortunately belonged to one of those classes of animals against which

people seem to have a natural horror of feeling, when they come in contact with them. No doubt the dark places which some inhabit and the dangerous bite of others, have brought down this contempt upon the whole class. And still there are few animals more important and useful in the economy of nature, where an adequate balance between all classes of beings must exist, than the Arachnids. They only live upon insects, and destroy a very large number of some, which do much damage and harm to other animal and vegetable life. Indeed, when we look upon their occasionally fantastic forms, there is not much more variety that imagination could invent, than we meet among the *Arachnoidea*; and as regards variations of shade, tasteful distribution and brilliancy of colours, they do not remain much behind the beauties of nature, the birds and butterflies.

It was at first the intention of the author of this paper only to collect materials for a monograph of the Indian SCORPIONIDÆ, because they are better known to most people than the spiders which, being generally harmless, are as a rule passed by unnoticed. The materials for such a monograph, which ought to give a sufficiently perfect account of the group, are, however, only gradually forthcoming, but with the aid of friends, it is to be hoped that the work can soon be brought to a conclusion.

Meanwhile, a large number of other *Arachnoidea* has been collected, and among them some are very interesting forms, new to science; out of these the author had made a selection of species, representing some of the principal divisions, or tribes, of the class. The species are described with all the necessary details, and of all of them the required illustrations will be given. The object of this arrangement is principally to direct attention to the variety of forms, and to aid those who may feel inducement to take an interest in the study of *Arachnoidea*. It hardly needs to be repeated that few other branches of Indian Zoology offer such a large number of interesting novelties to one who wishes to assist in the study and revelation of the animal forms surrounding us.

The species described in the present paper are *Gagrella signata* and *atrata*; *Galeodes orientalis*; *Telyphonus Assamensis*; *Thomisus pugilis*, *Th. elongatus*, *Th. Peelianus*; *Gastracantha Canningensis*; *Meta gracilis*; *Tetragnatha iridescens*; *Nephila angustata*; *Epeira (Argycpes)*

stellata, *Ep. (Arg.) mammillaris*; *Ep. Brahminica*, *Ep. hirsutula*; *Dolomedes longimanus*; *Hersilia Calcuttensis*; *Sphusis viridanus*, *Sph. similis*; and *Scytodes propinqua*.

The reading of Capt. Fryer's "Contribution to Pelagic Mollusca" and Dr. Meredith's "Topographical features of Assam," was postponed. The President announced the new elections and the meeting separated.

LIBRARY.

The following additions have been made to the Library since the last meeting held in April, 1869.

Presentations.

*** (Names of donors in capitals.)

Bulletin de la Société de Géographie, January, 1869.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Bijdragen tot de *Taal*-landen Vekenkunde van Nederlandisch Indie Tweede deel, 2nd en 3rd stuk; Derde Deel, 1st en 2nd stuk.—THE SOCIETY.

Proceedings of the Royal Society, Vol. XVI. No. 108.—THE ROYAL SOCIETY OF LONDON.

Proceedings of the Geographical Society Vol. XIII. No. 1.—THE ROYAL GEOGRAPHICAL SOCIETY OF LONDON.

Rahasya Sandarbha, Vol. V. No. 51.—THE EDITOR.

Das Achtzehnte Kapitel des Wendidâd; by Dr. M. Haug.—THE AUTHOR.

Maleisch Leesboek, door H. N. Van der Tunk.—THE AUTHOR.

Discours Prononce a l' Ouverture du Cours de Cochinchinois; par Abel des Michels.—THE AUTHOR.

Report on the Administration of Mysore 1867-68.—THE GOVERNMENT OF BENGAL.

Ditto on the Administration of the North Western Provinces for 1867-68.—The same.

Annual Report on the Administration of the Province of British Burma for 1867-68.—The same.

Annual Report on the Operations of the Post Office of India for 1867-68.—The same.

Report on the Administration of the Hyderabad assigned district for 1867-68.—The same.

Annual Report on the Administration of the Madras Presidency of 1867-68.—The same.

Report on the Administration of the Panjab and its Dependencies for 1867-68.—The same.

Report on the Administration of Coorg, for the 1867-68.—The same.

Selections from the Records of Government North Western Provinces 2nd Series Vols. I. No. 3, 4.—THE GOVERNMENT NORTH WESTERN PROVINCES.

Memoirs of the Geological Survey of India, Palæontologia Indica, Vol. V. 7—10.—THE GOVERNMENT OF INDIA, HOME DEPARTMENT.

Punjab Plants, comprising Botanical and Vernacular names, and uses of the most of the trees, shrubs and herbs of economical value, growing within the Province.—PUBLIC WORKS DEPARTMENT, PUNJAB.

Purchase.

The Vishnu Purana Vol. IV. ; by H. H. Wilson.

Calcutta Review for April, 1869.

Comptes Rendus Nos. 1, 2, 3, 4, 5, and 6, 1869.

Journal des Savants, December, 1868 and January, 1869.

The Ibis Vol. V. No. 17.

Revue Linguistique, Tom. 2nd Fas. III.

Revue Archéologique No. 2, 1869.

Revue des Deux Mondes, from to 1st February 15th February, 1869.

Exchange.

The Athenæum for December, 1868, and January, 1869.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JUNE, 1869.

The Monthly Meeting of the Society was held on Wednesday, the 2nd instant at 9 o'clock P. M.

T. Oldham, Esq., LL. D., President, in the chair.

The minutes of the last meeting were read and confirmed.

The following presentations were announced—

1. From Mr. A. M. Cameron—A copy of a lecture on Persian Poetry and Romantic Poets of Persia.

2. From the Government of India, in the Foreign Department—A copy of a Journey to Kashgar, in 1858, by Capt. Valikhanof, translated by Mr. R. Michell.

3. From Mr. H. von Schlagintweit-Sakünliniski—New data regarding the death of A. von Schlagintweit, (Extract from the reports of the mathematical and physical class of the Bavarian Academy of Science, München, 1869).

Mr. H. von Schlagintweit states that, from information which he received last autumn from a Musalman servant, named Abdullah of Umritsur, he had been able to ascertain much more accurately the date of the death of his unfortunate brother, than it had been possible to do from previous dates. Abdullah writes that Mr. Adolph v. Schlagintweit's camp was attacked by Valí Khán in front of the city of Káshgar, and that the traveller fell in the struggle. Abdullah was thrown in prison, and the next day he observed the new moon of the Muharram. He further states that the day on which he was imprisoned was a Chahár-shambih, or a Wednesday. From

these and some other circumstances Mr. H. von Schlagintweit concludes that his brother Adolph fell in the morning hours of the 26th August, 1857.

4. From M. Cantopher, Esq., two copper coins of Antoninus Pius and Galba, taken out of a small lake in the vicinity of Tournay, in the south of Belgium, and presented to Mr. Cantopher by the Curator of the Archæological Museum of the Jesuit's College in that city.

On the motion of the President, the thanks of the Society were voted to Mr. Cantopher.

The following gentlemen duly proposed and seconded at the last meeting were balloted for, and elected ordinary members,—

J. Schroeder, Esq.

J. Leupolt, Esq., C. S.

F. W. Rawlin, Esq., B. C. S.

Bábu Udayachanda Datta, Purúlia.

W. C. Bonnerji, Esq.

The following gentlemen are candidates for ballot at the next meeting.

Lieut. J. C. Ross, R. E., proposed by Mr. A. Cadell, C. S., seconded by Mr. W. Irwine.

A. V. Nursing Rao, Esq., Vizagapatam, proposed by Mr. Blochmann, seconded by Dr. Stoliczka.

C. J. Lyall, Esq., Balandshahar, proposed by Mr. Blochmann, seconded by Dr. Stoliczka.

Robert Gordon, Esq., C. E., Henzadag, Burma, proposed by Dr. J. Anderson, seconded by Mr. H. Blochmann.

S. Pell, Esq., proposed by Dr. Stoliczka, seconded by G. Nevill, Esq.

A. M. Markham, Esq., C. S., proposed by Capt. A. D. Vanrenen, seconded by Col. Gastrell.

J. Coates, Esq., M. D., proposed by H. B. Medlicott, Esq., seconded by Dr. T. Oldham.

The following gentlemen have intimated their desire to withdraw from the Society: Capt. W. J. W. Muir, A. E. Russell, Esq., C. S.

The President communicated the following letters, addressed from the Secretary to the Government of the Punjab to the Superintendent of the Geological Survey of India.

Copy of a letter from Offy. Deputy Commissioner, Bunnoo, to Offy. Commissioner and Superintendent, Derajat Division, No. 135, dated 28th March, 1868.

In reply to his No. 75, dated 8th instant, forwarding for report, copy of No. 1239, dated 3rd instant, from Secretary to Financial Commissioner, Punjab, has the honor to report as follows :

2. The earthquake which occurred here during the night of November 10th last caused the moisture, which generally lies at a depth of about 2 feet beneath the surface, to rise to about 6 inches from the surface. This phenomenon was general throughout all the light sandy tracts of Murwut. In consequence of it numbers of villagers who, on account of the drought, had for the time deserted their villages, returned, and, with those who had remained, at once commenced ploughing and sowing for Rubbee.

3. Undersigned was in Murwut himself shortly after, and himself tested the truth of the reports which had spread throughout the district. The sandy surface of the soil exhibited its usual dry parched appearance, but on scraping the surface a little, the moisture was at once rendered apparent. The rise in the level of the moisture can only be attributed to the earthquake, as the day before it took place the moisture lay at its usual depth below the surface, and on the morning after the earthquake it had everywhere risen from 1 foot to 18 inches above its usual level.

Note by R. E. Egerton, Esquire, Financial Commissioner, Panjab.

The report regarding the effects of the earthquake in Bunnoo on moistening the soil, which appeared in the newspaper lately quoted from Bombay Gazette, I think, seemed to me a repetition of the reports which were prevalent there in November to the same effect, and which came up again from Bombay after 3 months, as if the news was fresh.

When I was in Bunnoo in November, there was a rumour that the soil of Murwut had been rendered moist by the earthquake which had recently occurred, and that the people had been able to sow their spring crops though no rain had fallen. I asked about this from the people at Lukkee in Murwut, and they said that no such effect had been really produced by an earthquake, but that people

had sown their spring crops, though there had been no rain, because the time for sowing was nearly past, and they were afraid of losing their crop if they did not sow. On hearing this, which seemed to me a rational explanation, I did not make any further enquiry. Mr. Thorburn mentioned that the report had been prevalent, but did not say how it arose. There was an earthquake certainly, and the spring crops in Murwut were largely sown though no rain fell. It was not difficult to invent the fact of unusual moisture having been developed by the earthquake.

Had there been any very general or perceptible moisture of the ground really developed by the earthquake, I am sure, I should have heard of it in my journey through the Bunnoo district.

It is just possible that there may have been another earthquake attended by such a phenomenon recently, but as I have heard quite lately from Colonel Graham, Mr. Thorburn, and Mr. Priestly, who none of them mention it, and as the report on the weather and the crops up to 21st February have not noticed it, I think that the earthquake of November must be that alluded to.

The following communications were read—

I. A contribution to our knowledge of Pelagic Mollusca; by Capt. G. E. FRYER, Madras Staff Corps,—communicated by Dr. STOLICZKA (Abstract).

The paper contains a summary of observations made during two voyages from England to India via the Cape of Good Hope. Capt. Fryer first gives a general account of the organisation of *Pteropods*, then comments on their habits and mode of life, and on the geographical distribution. A table shewing this distribution is added, and also a map on which the localities are marked, with the number of species captured at each of them. In the present communication Capt. Fryer treats only of the *Thecosomata* which are furnished with an external though very thin shell. The author found 23 species in the Atlantic Ocean, 23 in the Indian, 11 in the Southern, and 11 in the Bay of Bengal. A few species appear to be peculiar to each of these oceans. The map shews that comparatively the largest number of specimens was obtained south and south-east of Ceylon. The species *Hyalea tridentata* (var. *Forskalii*), *H. teniobranchia* and

H. affinis, which by some authors were considered to be identical, are believed by the author to be distinct, and figures of the shells and animals are given. In conclusion Capt. Fryer appends directions for collecting these interesting animals during sea voyages.

Mr. Baxter bore testimony to the very great accuracy and care evinced by Capt. Fryer, in his paper, particularly as to the times of the appearance and disappearance of this very interesting class of Molluscs. He took the opportunity of dissenting from the placing *H. teniobranchia* as a distinct species, believing it would prove to be a variety of *H. tridentata*; the absence of specimens was a great bar to a correct conclusion. *H. mucronata*, although described by Quoy and Gaimard, was entirely ignored by Rang and Souleyet.

The thanks of the Society were voted to Capt. Fryer for his interesting contribution.

II.—*Notes on the topographical features of Assam, and their indications*; by J. MEREDITH, M. D. (*Abstract*).

Dr. Meredith proposes to explain the formation of the valley of Assam by the well-known theoretic geological hypothesis of the contraction of the earth's surface, this being, Dr. M. says, the chief cause of depressions and elevations. Dr. M. thinks that there are indications of glacial action at Bishnath-Dolpore and at Tezapore, similar to those which Prof. Agassiz has recorded as occurring in Brazil. Dr. M. gives then an elementary explanation of certain ravines and swampy places, called *Hoolahs* and *Peetanies* by the natives of Assam. He also says that a good deal of the unevenness and disturbances of the ground are due to seismic action.

During the reading of the paper, Dr. Stoliczka observed, regarding Prof. Agassiz' explanation of the formation of the Amazon valley by glacial action, that a short time ago he had received information from Mr. W. Gabb to the effect, that marine shells had been found in those clayey beds which were supposed by Prof. Agassiz to be the result of glacial action. This occurrence of marine fossils clearly shews, that at least some portion of these deposits is of marine origin.

Mr. H. B. Medlicott stated that the rocks at Tezapore which Dr. Meredith most likely supposes to be moraines, are rocks in situ, and that he (Mr. Medlicott) has not observed on them any glacial action about Tezapore, nor in any other parts of Assam.

III.—*The District of Lúdhíyánah*, by T. W. H. Tolbort, Esq., C. S.,—
communicated by Mr. Blochmann, (*Abstract*).

This paper on the District of Lúdhíyánah is divided into two parts—1, on the Natural features; and 2, on the History of the District. The former part is chiefly botanical. The latter touches on the history of Máchíwárah, Tihárah, and the town of Lúdhíyánah which before and during the times of the Moghuls, belonged to the *Sirkár of Sarhind*, or *Sahrind*. The sketch of the history of the district is continued to the present age.

Mr. Tolbort's paper is full of original information regarding the superstitions and the *guru* worship of the people; their reverence for the famous Shaikh 'Abdul Qádir of Gílán (a Persian province near the Caspian Sea), and for Sakki Sarwar. The numerous biographies of Indian saints which we possess, say nothing of the latter; for the history of the former, the Asiatic Society of Bengal possesses several biographies in MS.

The author also gives a list of words and phrases illustrative of the Lúdhíyánah dialect, and closes with a description of the ruins of Sarhind and Pávil.

(The paper is in type, and will form the concluding portion of No. 2 of the Philological Part of the Journal, which will be issued next week.)

Mr. Tolbort has also presented to the Society three Bactrian copper coins; twenty-two copper coins, chiefly of the reign of 'Aláuddín i Khiljí; a *Chahárgoshah Jalálah*, or square rupee of Akbar, struck in 990; and a most excellent silver coin of 'Aláuddín i Khiljí, struck in A. H. 710, or A. D. 1310. The latter has been described by Marsden (p. 530); but his reading seems somewhat doubtful. The part of the margin of Mr. Tolbort's specimen containing the name of the mint is almost entirely cut away; but it shews traces of the word *حضرة* *hazrat*, and was therefore struck at Dihlí. For Marsden's *هذه القضية* *házihil-qazziyyatu*, I read *هذه الفضة* *házihil fízzatu*, or *هذه القضية* *házihil-fízziyyatu*, which means *this silver coin*. The word *qazziyyah* has no sense. My reading is confirmed by the fact that only silver coins of 'Aláuddín contain this phrase. Marsden's plates shew that 'Aláuddín's gold coins bear, with the exception of these two words, the same inscription as the silver coins.

Other silver coins of 'Aláuddín are, according to Marsden "from a mint of an unascertained city, the name of which seems to commence with the character سر, following the term بلدة." This may be سرهند *Baldah i Sarhind*.

IV.—*Note on the fall of a Meteorite at Jullunder, in April A. D. 1621, according to the Iqbáldmah i Jahángír; by H. BLOCH-MANN, Esq.*

"At this time (*Rab'ulákhir* 1030, or March—April 1621) a dreadful explosion was heard in a village near Jullunder (*Jálandhar*). The explosion proceeded from the east, and was so tremendous, that the inhabitants of the place were in the greatest anxiety for their lives. While the noise was going on, a lightning-like lustre shot along the heaven, and descended to the earth, when it disappeared. It took some time before the inhabitants recovered from their fright, and regained their composure. They sent a courier to Muhammad Sa'id, the Collector of Jullunder, and informed him of the event. The Collector at once mounted a horse, and came to the spot. He found that the ground to about ten to twelve yards square looked as if burned, and the soil was still quite hot. Muhammad Sa'id then ordered to dig up the burnt ground. The deeper they dug, the hotter and crisper the earth became, till they alighted on a hot lump of iron, which was so hot, that it seemed to have come that very moment out of the oven. When it got cooler, the Collector took it home, put it into a bag, sealed it up, and sent it to Court. His Majesty [*Jahángír*] called *Ustád Dáúd*, who was well known in those days for the excellent sword-blades which he made, and gave him the order to make the lump into a sword, a dagger and a knife. The armourer then reported that the iron would not stand under the hammer, but crumbled to pieces; but he could mix it with pure and faultless iron. This His Majesty ordered him to do. He then took three parts of meteoric iron (*áhan i barg*, lightning-iron) to one part of common iron, mixed them together, and made of it two swords, one dagger, and one knife, which he laid before His Majesty. After being mixed with the other iron, the meteoric iron exhibited the same grain as is observed in *Yamani* and Southern [Indian] swords. You could bend the swords, and not a trace of the bending would remain. When the

cutting power of these swords was compared with that of other swords, they stood at the very head of all swords."

The *Tuzuk i Jahāngirī* (p. 329)—from which this account, as everything else, was copied by the author of the *Iqbāl-námah*—states that the burned ground measured 10 to 12 *gaz*, not *cubits*, and that the weight of the meteorite was 160 *tolahs*. The two swords received the name of *Shamsher i qāṭi* (cutting sword), and *Shamsher i barg-sirishī*, (lightning-natured sword.)

Regarding the time of the fall, the *Tuzuk i Jahāngirī* says that it took place on the 30th *Farwardīn* (Akbar's Era) in the morning. The *Iqbāl-námah* and the *Tuzuk* state that the 1st *Farwardīn* corresponded to *Monday* the 27th *Rabī' ulākhir* 1030, A. H.

Now the first *Muharram* (New Year's Day) 1030 fell, according to Prinsep's Tables, on Thursday the 16th November, 1620; and as the 27th *Rabī' ulākhir* is the 116th day of the year, it would correspond to *Sunday* the 11th March, 1621. But the *Tuzuk* clearly states that the 27th *Rabī' ulākhir* was a *Monday*—which difference arises from the fact that Muhammadans reckon the day from sunset to sunset, but not, as we do, from midnight to midnight.

Hence the 1st *Farwardīn* (day-time) corresponds to *Monday* the 12th March, 1621; and the 30th *Farwardīn*, the day when the meteorite fell, would be *Friday*, 10th April, 1621, *old style*.

The weight of the meteorite is mentioned to have been 160 *tolahs*. Akbar's *tolah* = 12 *Māshahs* [1 *Māshah* = 15.5 grains troy (Useful Tables, p. 111)], = 186 grains. Our *tolah* weighs 180 grains. Hence the meteorite would have weighed nearly 5.271 lbs. troy.

The President said that in the Catalogue of Meteorites and Fireballs, by R. P. Greg, Esq., given in the reports of the British Association for the Advancement of Science for 1860 (Oxford meeting) this fall is noticed under "1620, April 17, Jalindher, Lahore, 7 lbs. (?) weight: stated to be an Iron fall; 1621? fell with great light and noise." Notwithstanding the discrepancy in date this is obviously the same fall. It is particularly interesting as one of the very few falls of *Iron* which have been actually observed, and perhaps the only authentic fall of a meteoric iron in India. From the fact stated that the mass when worked by the blacksmith 'crumbled to pieces under the hammer,' it is probable that there was some admixture of stony matter with the iron.

The President also said he had received from Colonel Haughton, Commissioner of Cooch Behar, a notice of a brilliant meteor, which it was desirable to record.

Colonel Haughton says, (under date May 1st.) "We had a magnificent meteor last night (April 30th.) It must, when vertical, I think, have crossed between the tail of the Bear, and a bright star nearest to it. Its apparent size was about half moon's semi-diameter; course, at a guess, from the W. N. W. to E. S. E., colour less brilliant, and more greenish than the moon. Time about 7 p. m.

The most notable fact about it was, that during the last portion of its course, there was a ragged edge of flame—like the corona during the eclipse, I should think—from the side opposite to its course."

V.—*Analysis of the Khetree Meteorite, with an account of its fall;*
by D. WALDIE, Esq., (*Abstract*).

The Meteoric stone of which I have made the analysis was sent to me a considerable time ago by Mr. W. Stotesbury, of the Topographical Survey. Other urgent occupations have prevented me from completing it until now. Mr. Stotesbury gives an interesting account of the fall, though he is somewhat uncertain of the date: he says, February 1867, not far from Khetree in Shekawatee, Rajputana, and he himself heard the explosion accompanying the fall, though he did not see the stones come to the earth. The stone, submitted to me, was similar in appearance to many of the samples in the Indian and Geological Survey's Museum, a grey mass studded with small metallic globules, partly of a light bluish grey colour, partly of a darker grey, and with a nearly black crust.

The following is an abstract of the analysis—

Nickel iron containing Cobalt and Chromium,	16.98
Troilite (Sulphide of iron) with a little Schreibersite (Phosphide of iron),	5.44
Earthy matter soluble in acids, chiefly Silicate of Magnesia and Iron,	34.69
Chrome Iron,	53
Silicates insoluble in acids, chiefly Silicate of Magnesia,	42.36

An attempt was made to separate the light-coloured part from the dark grey, and a portion of the light-coloured thus obtained free from dark,—also a portion of the dark-coloured but mixed with some of the light-coloured. The light-coloured part had the highest specific gravity, and contained most metallic iron. It also contained all, or almost all, the cobalt along with nickel, while the dark part contained only, or almost only, nickel. The insoluble part of the dark-coloured portion contained about two-thirds of the chrome iron, the light-coloured about one-third. In other respects they were nearly alike, both containing about the same proportion of Sulphur and other constituents. Particulars will be given in the Journal.

VI.—*On the Ancient Copper Miners of Singhbhûm ;*
by V. BALL, Esq., B. A., *Geological Survey of India.*

The existence of copper ores and ancient copper mines in the district of Singhbhûm was first prominently brought to notice by Colonel Haughton, who published an account of the mineral resources of Singhbhûm in the Journal of this Society for the year 1854. The result of this communication was, that some Calcutta merchants deputed Dr. Emil Stöhr to examine the ground, and a Company was formed in 1857 to work the ore. It is no part of the design of the present paper to discuss, or further allude to, the brief and unfortunate history of this Company, or of that which, raised on its ruins, met with a similar fate.

During the past season I have been engaged in an examination of the portion of country in which the copper-ores occur. Commencing to examine the copper-bearing rocks at the foot of the Chota-Nagpore plateau and proceeding thence eastwards, I found that at nearly every point where traces of ore occurred there are ancient excavations. These increasing in size, and being found in every conceivable situation, at the tops of hills, in valleys, in the thickest jungles, and even in the middle of cultivation where the rocks are obscured by superficial deposits. My curiosity was aroused as to who the ancient miners could have been, who have left such imperishable evidence of their skill.

Before proceeding to detail the enquiries which I set on foot, and the conclusions arrived at, it will be necessary to allude to what, so far

as I have been able to ascertain, are the only published opinions on the subject.

Colonel Haughton states "There was no local tradition as to when, or by whom the diggings had been worked, and it was a matter of doubt whether they were really made for copper."

Dr. Stöhr, since his return to Europe, has published two papers, one in Zürich* and the other in the *Jahrbuch* for 1854. In the former he suggests a connection between these relics of ancient civilization, and the rock temples of Orissa and the ruins of the town of Dulmi; he also repeats the only tradition known to the natives. This, as it was also told to me, I shall again refer to. In the latter paper, he conjectures that the mines are of the 11th century, when the kingdom of Orissa flourished.

In Singhbhúm proper, the replies to my queries were of a negative kind. No one could make the least suggestion as to who the miners were; and with regard to the age of the mines, the answers were, that they had not been worked during the past three, four or five generations.

From the local Rájahs, called respectively the *Koer* of Seraikela and the *Thakúr* of Khursawa, though they seemed willing to communicate all that they knew, I received similar replies.

In Dhalbhúm the *Purdhán* of Landú having been asked his opinion as to the ancient workers, replied that he did not know, but added "The Seraks formerly possessed the country." This belief of the Seraks having once occupied the country is recorded by both Major Tickell and Col. Dalton, as I shall have to allude to again further on.

Having thus had the name of the Seraks suggested, I was enabled to give a definite form to my queries. The result being that not only were several tanks pointed out as the work of Seraks, but, as I proceeded further eastwards, the mines were all attributed to the same ancient people.

East of the Kapergaddee ghát, on the Midnapore and Ohaibassa road, there is the site of an old town called Ruam. From the *ghátwál* of Ichinda, and independently from the zemindar of Pairaguri, I heard the only tradition known in connection with this place. It is, that a Rájah named Ruam who lived there possessed two tongues

* Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich, Vol V. p. 329.

(*do jīb*). This is the story which Dr. Stöhr also heard, and to him must be accorded whatever credit is due to priority of publication. Dr. Stöhr's interpretation is, that he must have spoken two languages, and was therefore a foreigner. Col. Dalton to whom I communicated the story, has very kindly given its explanation as follows: "The legend of the two tongues shews that the potentate, to which it alludes, must have been a Nag, or one of the serpent race; there can, I think, be little doubt that by the serpent race, the Kols are really meant, and as the great bulk of the population of Dhalbhúm are Bhumiz, ergo Kols, it is not unusual to find the legend of two-tongued Rájahs among them."

Hence this place has probably been inhabited by Kol Rájahs since the time of the Seraks; but whether the copper was worked by the former, the latter, or by both, the remains at present to be seen do not decide. They consist of a ridge or moat of clay which it is said enclosed the *gurh*, but which now encloses and is itself enclosed by a jungle of remarkably fine trees with dense undergrowth. Close by are three old Serak tanks, and a great accumulation of copper-slag indicating that this must have been one of the centres of operations. Following the direction of the strike of the rocks which, from this point, trends to S. W. and S., old workings and slag heaps can be traced for many miles further; the last being about 3 miles north of Kamerára, on the Midnapore and Bombay road.

All along this line wherever the people were sufficiently intelligent to reply to the enquiries, the mines were invariably attributed to the Seraks. At Ghâtsillah, where the Dhalbhúm Rájah (a minor) lives, I received the same information. Here I also heard of some remains at Karra-Mounda, six miles east of Kumerára. These I afterwards examined, on entering the village the eye is at once attracted by a number of rings of vitrified clay which are thickly scattered over the surface, throughout an area exceeding in extent that covered by the houses; on removing the surrounding clay and rubbish, I found that these rings were the sections of small furnaces which had become covered up.

The most plausible conjecture was, that this place was a *depôt* in which the rudely smelted copper, brought from the hills, was refined and prepared for market. Several tanks in this neighbourhood are said

to have been the work of Seraks. Here for the first time did I hear mention made of any definite age. Several respectable villagers assigned to the furnaces a minimum age of 700 years, but admitted that they might be much older.

In the jungle east of the village of Khúrsi, I was pointed out a ridge of clay which was said to be the bund of an ancient tank, with which assertion I was obliged to be satisfied, as the thickness of the jungle prevented more than a few feet of it being seen at a time; close by there were two or three slabs of cut laterite without ornament of any kind, these are attributed to the Seraks and are regarded with a certain amount of awe, but no reverence.

At Panrasoli there is a tank with a chatah in the centre; this I did not visit. At Bend there is what looks like the capital of a pillar with coggled ornamentation, this is also of laterite and is said to have been brought from Panrasoli and to belong to the Serak period.

It is due to the ancient miners to give them credit for considerable mining skill; and the slags furnish conclusive evidence of their proficiency as practical metallurgists.

They seem to have searched the country with wonderful care; even at remote points in Manbhúm, the only ones at which copper has been found, there are ancient excavations.

In a paper on Arabia Petræa, recently published, it is suggested that the ancient copper mines therein described, were in all probability worked with stone implements; such a supposition cannot for a moment be entertained in reference to the excavations of Singhbhúm as they at present stand; but whether the very earliest outcrop excavations may not have been effected with instruments of stone, it is impossible to decide.

Although it is evident that these ancients worked the ore with profit, it does not by any means follow that it would pay an English Company to work them now. Not only could the ancients work economically, whereas every European administration involves a primary heavy expenditure, but in those early times, long before the metals arrived at their present relative values, copper may have been regarded as a precious metal.

These remarks are made in anticipation of any question which may be asked on the subject, but it is apart from the scope of this

communication to discuss the prospects of success which mining might have at the present day.

In this country where there are no reliable records, even such evidence as has been given in support of the Seraks having been the ancient copper miners is not usually obtainable. In Singhbhúm there are in operation at the present day extensive potstone mines, and gold-washing is carried on by certain of the lower races. The unknown discoverers of these productions must be relegated to that class of mythical individuals who, in all countries, have pointed out the specific virtues of many drugs, and the particular properties of many natural productions.

All the published ethnological papers having reference to Singhbhúm or the adjoining districts refer to the prevalence of a belief amongst the Hos and Bhumiz that their country was formerly in possession of the Seraks.

Major Tickell says "Singhbhúm passed into the hands of the Surawaks, a race of Bengali Brahmins (?) now almost extinct but then numerous and opulent, whose original country is said to have been Sikrbhúm and Pachete * * * the oppressions of the Surawaks ended in their total expulsion from the Kolehan."

Col. Dalton has described several Jain temples and Buddhist emblems in subsequently Hinduized temples which are found in Manbhúm. He considers it "probable that these shrines mark the course taken in his travels by the great saint Vira." It may be that Vira did not visit Singhbhúm, hence the absence of temples. Or, on the other hand the Yatis, or clerical Jains, may not have extended beyond the ranges of hills which bound Manbhúm on the south, the more adventurous Seraks, or lay Jains, having alone penetrated the jungles where they were rewarded with the discovery of copper, upon the working of which they must have spent all their time and energy, as with the exception of the tanks above mentioned, the mines furnish the sole evidence of their occupation of that part of the country. It is scarcely conceivable that the Hos, when they drove out the Seraks, could have utterly destroyed all trace of buildings. Col. Dalton* estimates that the Jains were driven out by the Hos more than 2,000 years ago.

Without the least desire to stretch or force an analogy, one cannot

* J. A. S. B. Vol. XXXV. Part II. p. 164.

but be struck by the fact that the history of the earliest Aryan colonies in several other countries is connected with mines and mining, or to quote the words of the author of the *Annals of Rural Bengal*. "A distant colony of the same race (Aryans) excavated silver ore in pre-historic Spain; and the earliest glimpses we get at our own England, disclose an Aryan settlement, fishing in its willow canoes and working in the mines of Cornwall."*

Within the last few weeks a paper† by Mr. Bauerman, on Arabia Petrea, has reached India; in it some ancient copper mines and furnaces are described, many of the remarks upon which, might, without the least modification be equally aptly applied to those of Singhbhum. Mr. Bauerman writes—"There are no inscriptions or any other guide to the probable date of these workings; but it is evident from the extraordinarily poor character of the ore, that they must belong to a very early period, when metals were of nearly uniform value, owing to the production being confined to a few localities. Judging by the present conditions of mining economy, it may be fairly said that no such deposit could possibly be worked now, unless the value of copper was to be raised to several times that of gold * * * so perfectly has nearly every visible spot of ore been removed, that we were for some time in doubt as to whether the outer hollow was really an old mine and not a natural cavern."

The above notes have been put together as a contribution to the little known history of one of the Aryan races. It is hoped that the subject may have some interest for those who are at present engaged in researches regarding the early history of this country; it will be for them to decide what value is to be attached to the opinions put forward in this paper.

The reading of the two next papers :—

VII. *Observations on the Temples of Razdan in the Lar Pergunna, Cashmir*, by Lieut.-Col. D. J. F. NEWALL, R. A.

VIII. *India as described by Dionysius, the geographer, in his voyage round the world in Vers. 1107—1165*, by A. L. CLAY, Esq., C. S., was postponed.

After the announcement of the newly elected members, the meeting separated.

* *Annals of Rural Bengal*, p. 91.

† *Quarterly Journal of the Geological Society*, Vol. XXV. Part I. p. 17.

LIBRARY.

THE following additions were made to the Library since the last Meeting :

Presentations.

. Names of Donors in Capitals.

Traité Élémentaire des Fonctions Elliptiques, par Dr. O. J. Broch, 2nd Fasc. — THE AUTHOR.

Ueber den Charakter der Pehlewi-sprache, mit besonderer Rücksicht auf die Inschriften; im Auszuge mitgetheilt, von Dr. M. Haug. — THE AUTHOR.

Mémoires pour servir à la connaissance des Crinoïdes vivants, par M. Sars. — THE AUTHOR.

Our Valleys in the North-west Himalayas, by A. M. Cameron. — THE AUTHOR.

Rámáyanam Vol. I., Nos. 2, 3, 4, and 5; edited by Hemachandra Bhattachárya. — THE EDITOR.

Bulletin de la Société de Géographie, Février, 1869. — THE GEOGRAPHICAL SOCIETY OF PARIS.

The Anthropological Review, No. 25. — THE ANTHROPOLOGICAL SOCIETY.

The Journal of the Chemical Society, January, February and March, 1869. — THE SOCIETY.

Journal Asiatique, No. 46. — THE ASIATIC SOCIETY OF PARIS.

Journal of the Agricultural and Horticultural Society of India, N. S., Vol. I., Part III. — THE SOCIETY.

Abhandlungen für die Kunde des Morgenlandes, Band V., No. 2. — THE SOCIETY.

Zeitschrift der Deutschen Morgenländischen Gesellschaft, Band XXII., Heft, IV. — THE SOCIETY.

Nyt Magazin for Naturvidenskaberne, Bind XV. — THE SOCIETY.

Forhandlinger-i-Videnskabs-Selskabet, Christiania, 1867. — THE CHRISTIANIA UNIVERSITY.

Tre Akademiske Taler paa Universitetets Aarsfest den 2den Setimber, af M. F. Monrad. — THE SAME.

Notice Statistique sur le Royaume de Norvège. — THE SAME.

Les Pêches de la Norwége, par H. Baars.—*THE SAME.*

Norges Officielle Statistik Udgiven i Aaret, 1862, No. 2 C; Aaret, 1866, No. 3 C; Aaret, 1867, No. 1 D, No. 1 13, No. 3 C; Aaret, No. 1 C, D, F, No. 2 F, No. 8 C.—*THE SAME.*

Norsk Meteorologisk Aarbog for 1867.—*THE SAME.*

Meteorologiske Iagttagelser-i-det Sydlige Norge, 1863-64, 65-66.—*THE SAME.*

Meteorologiske Iagttagelser paa fur Telegraf-stationer ved Norges Keyst reducerede og sammenstillede of J. J. Astrand.—*THE SAME.*

Meteorologiske Iagttagelser paa Christiania Observatorium, 1866-67.—*THE SAME.*

Histoire Naturelle des Crustacés d'eau Douce de Norwége, par G. O. Sars, Ire Liv.—*THE SAME.*

British Burnah, Revenue Reports for 1867-68.—*THE GOVERNMENT OF BENGAL.*

Selections from the Records of the Government of India, Home Department, Nos. 67, 69, and 70.—*THE SAME.*

Report of the Popular Education in the Punjab and its Dependencies, for 1867-68.—*THE SAME.*

Report on the Administration of the License Tax for 1867-68.—*THE SAME.*

Records of the Geological Survey of India, Vol. II., Part I.—*THE SAME.*

Palæontologia Indica, Ser. V., No. 6 and 7.—*THE SAME.*

Records of the Geological Survey of India, Vol. II., Part I.—*THE SUPERINTENDENT, GEOLOGICAL SURVEY OF INDIA.*

A Lecture on Persian Poetry and on Romantic Poets of Persia, by A. C. Cameron.—*THE AUTHOR.*

Purchase.

Traité de l'Éducation des Vers à soie au Japon, traduit du Japonais, par L. de Rosny.

Commentar über das Avesta von F. Spiegel, 2 ter Band.

Grammaire de la Langue Zende.

Ibn-el-Athiri, Vol. III.

Simpson's India Ancient and Modern, Part III.

Transactions of the Zoological Society, Vol. VI., part 4.

Comptes Rendus Nos. 7 and 8.

The Numismatic Chronicle, 1868, Part IV.

Revue de Zoologie 1869, No. 1.

Revue des Deux Mondes, Mars 1st, 1869.

The Annals and Magazine of Natural History, March 1869.

Exchange.

The Athenæum for February 1869.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL

FOR JULY, 1869.

The monthly General Meeting was held on Wednesday the 7th Instant at 9 o'clock P. M.

T. Oldham, Esq., LL. D., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From H. A. Caggard, Esq., remnants of a human skeleton found while excavating for a drain in Kyd Street.—The completely ossified fragments of the skull shew a great thickness, the other parts of the extremities &c. are normal.

2. From Bábu Gopináth Sen—Facsimile of the indications of the Anemometer, as noted during the storm of the 16th May, 1869.

3. From Dr. C. Macnamara, a copy of a Manual of the diseases of the eye.

4. From Bábu Bholanáth Chandra, a copy of the Travels of a Hindú to various parts of Bengal and Upper India, Vols. I and II.

Upon the proposition of the President, a vote of thanks was passed to the donors.

The following gentlemen duly proposed and seconded at the last meeting were balloted for, and elected ordinary members—

Lieut. J. C. Ross, R. E.

A. V. Nursing Rao, Esq.

C. J. Lyall, Esq., C. S.

Robert Gordon, Esq., C. E.

S. Pell, Esq.

A. M. Markham, Esq., C. S.

J. Coates, Esq., M. D.

The following gentlemen are candidates for ballot at the next meeting—

W. Selbach, Esq., proposed by Dr. Stoliczka, seconded by Mr. H. Blochmann.

Prince Jahán Qadr Mirzá Muhammad Wáhid 'Alí Bahádur, nephew of His Majesty the King of Oudh, proposed by Maulví 'Abdullatíf Khán Bahádur, seconded by Mr. H. Blochmann.

The following gentlemen have intimated their desire to withdraw from the Society :

A. Mackenzie, Esq.

E. B. Harris, Esq.

G. W. Cline, Esq., M. D.

Dr. E. Bonavia.

Rev. J. Barton.

Bábu Bholanáth Chandra.

Several of these gentlemen intimated some time ago their desire of withdrawal, but according to the present rules of the Society their wishes could not have been earlier notified.

The following papers were read :—

I.—*Notes on the Temples of Razdan in the Lar Pergunnah, Cashmir ;* by LIBUT.-COL. D. J. F. NEWALL, (*Abstract.*)

This paper is a continuation of an article by the same author on Pilgrimages in Cashmir, which was printed in the Journal of the Society for 1866.

Col. Newall describes in it the ruins of several temples in the Lar Valley in Cashmir. A peculiar interest attaches to them, because they have not been described by General Cunningham.

The paper itself is accompanied by three sketches drawn by Col. Newall himself. These sketches are now in the hands of the artist, and will be given in Part I. No. 3 of our Journal together with the paper itself.

II.—*India as described by Dionysius the Geographer in his Voyage round the world, verses 1107 to 1165 ;* by A. L. CLAY, Esq., C. S.—communicated by COL. J. C. HAUGHTON, (*Abstract.*)

Mr. Clay has given in this paper the contents of a passage in Dionysius Periegetes of Constantinople, which treats of India. This ancient

geographer lived at the end of the fourth century; his work is but rarely consulted, because his descriptions do not materially add to our knowledge of ancient India. Mr. Clay says—

The lovely land of the Indi with the description of which Dionysius closes his “Voyage round the World,” as being the most eastern of inhabited countries, includes only so much of the India of our geography as lies between the rivers Indus and Ganges: but the existence of an unexplored land to the east of the latter river was doubtless understood by him, since he, in the commencement of his poem represents the world as encircled by an Ocean;—he also mentions a “Golden island” lying in the Eastern Ocean, from which the first rising of the sun may be observed—this island, by the way, is reached by the traveller “in a well-found ship” from Thule, across the Scythian or Arctic sea.

India, says Dionysius, is a country shaped like a rhombus, having the Caucasus for its northern boundary and the Erythraean sea on the south, in which direction it is terminated by the lofty sea-washed promontory of Kolias,* called Aornis,† opposite to which lies the island of Taprobane,‡ of fabulous extent, inferior in size only to the island of the Britons; where the elephant of the East roams indigenously, and whose surrounding waters are peopled with gigantic monsters, with dreadful bristling backs, and cavernous jaws, down which the poet says he would like to see all his enemies sailing.

The Caucasus which Dionysius makes the northern boundary of India, is a continuation of the long range of Taurus by which, he has before told us, Asia is intersected from Pamphylia eastwards. Other geographers call the portions of it east of the Indus Imaus§ and Emodes; the latter being to the extreme east and terminated by the Ocean, at which point the god Bacchus is said to have set up two pillars, to mark the boundaries of the world and to commemorate his

* A promontory of Greece was also called by this name, which some think to be a name of Venus.

† The Aornis or Averna, of the historians of Alexander's campaign (Curtius and Arrian) is upon the Indus. Strabo places it by the very source of that river. [The Greek word is Aornos (*ἀορνος*). *Ed.*]

‡ Ptolemæus says this island was subsequently known as Simundus, a *Palao* Simundus, and later *Salm*, whence Ceylon, though some think it to be Sumatra. It was discovered by the fleet of Alexander under Nearchus.

§ Mt. Imaus is not mentioned by Dionysius.

triumphs over the Indi. In the valleys of the wind-swept Caucasus, says the poet, rises the mighty Indus and flows south into the Erythræan sea; separating the fertile land of India from the barren country of the Arian tribes of Oritæ, Aribes, and linen-wearing Arachotes, who dwell at the foot of the mountain range of Paropamisus (a third division of the so-called range of Caucasus or Taurus,) and from the Gedrosi, who live on the coast of the Erythræan sea. By the mouths of the river is formed the Delta of Patalene.*

Dionysius† then relates how this remarkable country is inhabited by a variety of distinct tribes in various stages of prosperity, and begins his list with the Dardances‡ whom he places on the left bank of the Indus, their eastern limit being the river Hydaspes, where it receives the tributary river Acesines. Between those three rivers and the Kophes live the tribes of Sabæ,§ Toxili,|| Scodri,¶ and Pencall* (a wild and savage race of men). Last of all in the region of the auriferous and mighty rivers Hypanis† and Megarsus‡ live the Gargaridæ,§ followers of the god Bacchus.|| The two last rivers are represented as rising in Mount Emodes and running southwards to the promontory of Kolis after watering the valley of the Ganges.

The description of India concludes with mention of a tract of fertile

* The harbour of Patala is mentioned by Pliny, Curtius, Strabo, and Arrian.

† Dionysius mentions the rivers in India in the following order: 1. Indus; 2. Hydaspes; 3. Acesines; 4. Kophes; 5. Hypanis; 6. Megarsus. All geographers agree in placing the tributaries of the Indus, beginning from the West, (1) Choaspes; (2) Kophes; (3) Indus; (4) Hydaspes; (5) Acesines; (6) Hyarotis or Hydratotis; (7) Hypanis or Hypasis. One geographer, Ptolomæus, calls these rivers (1) Choas; (2) Suastns; (3) Indus; (4) Bidaspes; (5) Sandabilis; (6) Adris; (7) Bipasis; (8) Zadadrus. Accordingly Dionysius appears to err in placing the Kophes in India.

‡ Called by others Dardæ, Daradræ, (Plin. Ptol.)

§ Called Sibæ by others. (Arrian: Strab. Erat.)

|| Should be Taxili, a people mentioned by Curtius, Ptol., and Str., as living between the Indus and Hydaspes, having a town Taxilus, so-called from a king of that name.

¶ Scodri, not known to geographers: Diodorus mentions Sodri, living near the Indus.

* A city Pencalaitis is placed by Pliny, Strabo, and others, between the Kophes and the Indus.

† Represented by other geographers (Pliny, &c.) as running into the Indus. Alexander is said to have reached this river.

‡ Not mentioned by other writers, probably the Zadadrus of Ptolemy.

§ This name is not found in other writers. Pandaridæ and Gangaridæ are suggested: the latter are mentioned by Strabo, Arrian, Plutarch, and Diodorus; the two last place them near the Ganges.

|| Dionysius says (577), "These people don't shout half as loud as certain people in the islands of the British Channel who also worship the same god."

land along the Ganges, sanctified by the passage of Bacchus, who is said to have smitten that country for a neglect of his rites, and to have left behind a tract called the path of Nyssa.

Regarding the name *Nyssa*, Mr. Clay has the following remark:—

“The plain of Nyssa, watered by the Ganges is mentioned in another place (v. 625): from which it seems probable that the geographer understood that a place of that name existed somewhere near that river. Nyssa is universally known as the birthplace of Bacchus, but by some placed in Arabia; by others (Arrian and Curtius, &c.) in India, but at the foot of Mount Paropamisus. The whole matter is also supposed to be merely allegorical, as representing the sun rising in the East, and traversing the land of India: the pillars put up by the god on Mount Emodes being the starting point in his course, and those at Gades and the African coast the final goal.

It appears to me, at any rate, that the name Nyssa has left its mark in the word which signifies a state of drunkenness in the language of Hindustan.”—

The coincidence in sound of the name *Nyssa*, the birthplace of Bacchus, with the Hindústání *nissah*, drunkenness, is, at the first sight, striking. But this coincidence is purely accidental; for the Hindústání *nissah* is the vulgar pronunciation of the Persian *nishshah* نشه, which is a corruption (*tagarruf*) of the Arab. نَشَأُ *nish-ah*, with the *jazm* above the *shin*. Hence the Hindústání *nissah* is a recent Muhammadan importation.

III.—Notes on the Stone Implements of Burma; by W. THEOBALD, Junior, Esq., Geological Survey of India.

The occurrence of stone implements in India, both of the palæolithic and neolithic type, is a fact which has now been made known some years, and each year seems to add something towards a more extended acquaintance with these interesting relics. But, excepting a short notice in the Proceedings for July, 1865, (p. 126)* nothing that I am aware of, has been published respecting the stone implements found in Burma. They are, however, curious, as differing materially in form and type, not only from anything found in India, but from anything

* To complete here my account, I shall be obliged to repeat a few of my former statements.

hitherto described from any part of Europe, though any implement yet found in India, has its precise analogue in Europe.

The material of which the Burmese implements are fashioned, is either basalt, or some schistose rock, quite unlike anything to be met with in the district where the implements themselves occur; a fact, pointing, in my opinion, to their having been brought down from upper Burma, (where these implements are said to be common) by the original settlers in the country. They are called "*mo-gio*," or thunder-bolt, by the Burmese, and are believed to accompany the lightning. The popular idea is that, if a flash of lightning is seen to strike and an earthen *chattie*, or other vessel, is inverted over the spot, that in the course of a year, or so, the *mo-gio* will be found in it, having worked its way back again to the surface by its own recoil. To the true "*mo-gio*," the Burmese attach much value from the properties they believe it to possess, but they subject the article to many tests, as, no doubt from experience, they have discovered that many of them are in circulation, which from *not possessing* the characteristic powers of the *mo-gio* must therefore be spurious. I have not, however, myself seen more than one stone *mo-gio*, whose authenticity I doubted, and that mainly from its being made of jade; but though rare down here, authentic jade implements may be found in upper Burma. The implement was somewhat of the type, represented in fig. 3, pl. IV, and I was asked Rs. 50 for it.

One test of authenticity, the Burmese say, is that, if wrapped in a cloth and fired at, no effect will be produced on either the cloth, or its contents, however, near the piece may be fired at, and the true *mo-gio* is mainly valued from this belief in its presence producing invulnerability in the wearer. Another test is, placing the *mo-gio* on a mat with a quantity of rice. If a genuine stone from heaven, no fowls, or other creatures, will venture near the rice. Again another test is cutting a rainbow in half; a feat quite within the power of any one possessing the real *mo-gio*. Or if he cuts down a plantain tree with one, the tree will be killed and not, as is usually the case when cut down, send up a new shoot. It also guards from fire, which leaves untouched any house containing one. Its medicinal virtues too are believed to be very great, and a small chip reduced to powder and administered internally is considered as a cure against inflammation of the viscera and of the liver.

All the specimens of stone implements figured except fig. 2, pl. IV, which was from near Moulmein, were procured by me in the Prome district, east of the Irawadi; near the frontier and below Prome they become scarce, increasing in abundance,—to credit native testimony—above the frontier.

The universal testimony of the Burmese goes to prove that these implements are picked up on the surface of the hills, in the fields or clearings made for cultivation, and I never heard of their being found in the plains or anywhere, save on the hill sides, by the peasants engaged in clearing and cultivating them. This I think points to their accidental loss or abandonment by their original owners, in spots which supplied the wants of a long passed generation, as they do the present race. Supposing, however, that the men who wrought these implements were ignorant of metal, or I may say iron, it is not easy to comprehend, how they were able to effect clearances, as the present race does, in the gigantic forests of Pegu; assuredly heavier and more difficult to cope with by feeble men then, than now, and without clearing the forest, no cultivation would be possible in its umbrageous recesses.

On the question then, whether the makers of these stone implements possessed iron also, depends, I think, the right determination of their use. If in possession of the means for clearing the hill sides sufficiently for the cultivation of cereals, then I should incline to regard these stone relics as agricultural implements, used in hand agriculture, at the end of a stick, as a spade, to form the shallow holes in which the "hill rice" is even now sown by the Karens and Burmese in their hill clearings. If not explained in this manner, we must then regard them as weapons of the chase and war, though this use is, I think, negatived by their thoroughly inefficient character for such purposes.

Doubtless we shall be in a better position to argue their uses when a larger collection has been made, and any present remarks are, therefore, only tentative and designed to elicit additional information.

The most remarkable specimens, which seem to belong almost to another class of weapons from the rest, are those represented in figs. 1 and 2 of pl. III.

Fig. 1 (pl. III) is now in London, where I took it for comparison, and a very similar implement not quite so massive, but of the identical type, is in the "Christy" Museum, marked "Sumatra;" and this is the only

other specimen, I could find in England, approaching it in character. It is of basalt, worked perfectly smooth, with here and there, the evidence of its chipped, or primitive stage unobliterated by grinding. Its cutting edge, however, is perfectly worked down and entire, save a little scraping it has been subjected to by the natives before it came into my possession for medicinal purposes, which is sufficient to display the surface change of colour in the stone from atmospheric action.

Fig. 2 (pl. III) is a remarkable form, highly finished, but seems to have suffered fracture across the neck, which may have been an inch or two longer. I judge this was the case, as whilst the sides are squared and polished, the top surface is an unground fracture. This is of much the same material as the last, a fine grained basalt, and may be considered I think as a "chisel," and not a field implement. It is the only one of the type I ever saw in Pegu, and was said to have been found in the Prome district.

The specimens figured on pl. III, fig. 4 and pl. IV, fig. 1, are of the commonest type and somewhat variable as to shape and size. In the British Museum, there is one of this type, presented by Capt. Duff from West of the Irawadi. Many of these implements have seen bad usage, though many of the chips are of recent origin, and made by the Burmese owners for medical use.

If used as offensive weapons, we must suppose them to have been set in a handle parallel to the cutting edge. I, however, rather incline to think that they were used as implements for digging, and were fixed vertically in a handle at right angles to the edge, but in the same plane as back to front. The shoulders which are so conspicuous a feature on all specimens of this type would, on the latter supposition be of service, but not on the former. Or they may have been fixed hoe-wise with the handle at right angles to the back and front plane. Thus fixed, the shoulders would have been useful, but from their lightness, I incline to the idea of their having been fixed *vertically* in a handle and used for digging holes, for which their shape of edge is well adapted.

Fig. 4, on plate IV, belongs to a type which, though not so common as the last, is not rare, and the two pass into each other by intermediate forms.

Fig. 3, on pl. IV, represents a type not very common, and not unlike some of the implements found in Behar, though the nearest to it that I have seen, have already been pointed out above.

Fig. 3, on pl. III, belongs to a curious type of which I have only seen one specimen, and it seems probable from the variety of pattern displayed in these implements, that each type was fashioned for some special purpose.

All the above specimens have once been finely ground and finished, though from the nature of the material employed and subsequent exposure and use, some are fresher as well as more perfect than others. The specimen has been recently broken by its discoverer, in picking it up in a field, when at work.

Other specimens of not an uncommon type, and which vary in size, also occur. The form resembles that represented in fig. 4, pl. III, but they are not so regular; one is much flatter and on the edges rather injured. Another specimen consists of some schistose rock, split and roughly ground down, and the working of the lashings, used to fasten the handle, often leave traces on the side, which in the present specimen are clearly seen. From its shape I think this type was probably impacted hatchet-wise in its handle and used for cutting, and that specimen has evidently seen hard usage.

Fig. 2, pl. IV, represents a rough, stout, wedge-shaped implement, of which I have never seen another, and belonged to a man near Moulmein who declined to part with it.

The above are all the types of stone implements I have noticed in Pegu, though their form is very variable, much more so than the Indian "celts." The great bulk, however, of those noticed by me belong to some variety of the types represented in fig. 4 on pl. III, and figs. 3 and 4 on pl. IV, the entire number of all types which I have observed in Pegu amounting to 50, or thereabouts.

I may mention, that I picked up somewhere near Jabalpúr, a roughly shaped stone spindle whorl,* or weight of soapstone, the shape of an India-rubber-ring, the margins being broader and thicker. At the time I had no suspicion of its interest. Since then, however, I have seen precisely similar articles in European collections, and have no doubt, what I threw away was an authentic antique spindle weight, as I think they are considered.

* It resembles in form the specimen figured on pl. 1 of the Proceedings for 1866 (vide July number, p. 136), but was considerably smaller.

I have also at this opportunity sketched, pl. IV, fig. 5, a fragment of a Brass Celt which was shown to me near Moulmein, and was regarded by me as of doubtful authenticity.

A short discussion followed the reading of this paper.

Dr. Stoliczka said that one or two of the forms of implements with uniformly attenuated sides (fig. 3, pl. IV,) appear to have their perfect analoga in the later stone age of Europe, where polished stone implements came in use, instead of the older rude ones. The nature of the rock, being basalt or schist, certainly did not allow their being used in clearances or the like purposes in the jungle, and Mr. Theobald's suggestion that they were more likely employed in rice cultivation is no doubt much more probable.

The President drew attention to the very peculiar form of these implements, being evidently manufactured for certain purposes. Their most remarkable appearance, quite distinct from European forms of the kind, consists in the sharpened edge on one side only which most of them possess. This, he believed, has not been noticed in any of the implements found in Europe.

IV.—*Notes on Indian Mollusca.* Descriptions of new species of *Diplommata* from the Khasi hills; by Captain H. H. Godwin-Austen, F. R. G. S.—communicated by Dr. Stoliczka.

Captain Godwin-Austen has for years given attention to collecting landshells in various parts of India, and to carefully observing their animals. He has contributed several interesting novelties to Mr. W. T. Blanford's well-known "Contributions to Indian Malacology." Late-ly, however, Captain Godwin-Austen obtained a large number of new species in the Khasi hills, and this has induced him to open with the present contribution a series of papers "on Indian Mollusca." Four new species and a very interesting variety of *D. polypleuris* have now been described by the author. The notes regarding the animals of these species are especially interesting, because we as yet know very little of the animals of the CYCLOSTOMACEÆ, and allied forms.

V.—*Contributions to Indian Malacology, No. XI.* Descriptions of new species of *Paludomus*, *Cremnoconchus*, *Cyclostoma*, and of *Helicidae* from various parts of India; by W. T. BLANFORD, Esq., A. R. S. M., F. G. S., &c.

Dr. Stoliczka laid on the table the beautifully executed drawings accompanying the paper. Among the 18 new species noticed, several belong to *Nanina* and *Glessula* (*Achutina*), the latter chiefly are from Western and Southern India, the former as well, as some of the other shells, are from the Khasi and Cachar hills. The paper also contains notes on several little or imperfectly known species with regard to shells, as well as to their animals.

In answer to a question put by the Rev. J. Long, whether he had examined all the Mollusca occurring in lower Bengal, Dr. Stoliczka stated that he had seen a great many of them, but it would not be possible to give for some time a satisfactory account of all those he had examined. The anatomical details require a large number of illustrations, in order to be perfectly intelligible, and the same may be said regarding the animals themselves. This involves a great expense, and it will be chiefly on this account that the work can only be published at intervals; it is, however, in progress.

Dr. St. also remarked that there are probably few places in the world which offer so many remarkable Mollusca for examination, as the Sundarbans. He alluded to the great variations which some organs appear to undergo by changes affecting the habit of the animals. In one common species of the CERITHIIDÆ, most of which are marine animals and therefore possess gills adapted for breathing in water, this respiratory organ seems to have altogether disappeared, having been entirely replaced by lungs. This species, *Cerithidea obtusa*, occurring generally on muddy banks all through the Sundarbans, dies when immersed in water for any length of time. Dr. St. further observed that he was most anxious to examine regarding this very peculiar change some other specimens of the same species also occurring along the Arracan coast, in places where pure sea-water has full access. Three species of LITTORINIDÆ, occurring at Port Canning on muddy banks, and on trees and bushes near the river are, in this respect

equally interesting, and so is also the animal of Mr. W. T. Blanford's *Cremnoconchus Sylhadrensis*; but all these possess gills, though they gradually become rudimentary and ultimately no doubt will disappear. Changes in other organs are similar to those just mentioned, they progress very gradually. The morphological studies on these subjects will be in every respect very interesting and important for the zoologist and in particular for the conchologist.

VI.—*Extracts from letters addressed to BA'BU RA'JENDRALA'LA MITRA by Professor C. HOLMBOE, of Christiania, giving abstracts of certain papers lately published by him; by BA'BU RA'JENDRALA'LA MITRA.*

Adverting to his paper on the relation which formerly existed between the ancient weights of Southern India and Scandinavia, Professor Holmboe says, "While looking for corresponding terms for the weights of Southern India and Scandinavia, I have discovered that in the middle ages, there was current in Russia a *grivna* which was reproduced in the *marc* of Scandinavia and the *ser* of India. The *grivna* subsequently passed into the *grivenha*, that is to say, the 'small *grivna*,' when the Russians adopted a lb of two *grivenha*. There have been found in Russia a great number of bars of silver, the weight of which is equal to the *marc* of the ancient Scandinavians, and as among them rings of the same metal represent a demi-marc, so in Russia they divided the *grivenha* into two, and called them half-roubles—a name which was gradually used to designate the Russian dollar of a smaller weight.

"In another Memoir I have demonstrated that the resemblance of the sepulchral mounds of Norway with the topes of Asia, concerns principally the series of rocks which surrounds the base of the monuments which formerly contained images of the Linga of the Indians. There are preserved in our museums some specimens of the Linga, found under ground, and made of white marble or of a whitish calcareous stone. I have spoken of these in my memoir on *the traces of Sivaism in Europe*, and given drawings of them."

In a Memoir on the figure of a boar on Gallic and Indian coins, the author notices the similitude between certain accessories which accompany them. On the Gallic coins, the boar is placed at the end

of a flag-staff, which is also the case in some coins and seals of India. On other coins the boar is accompanied with a dart or a knife as in Gallic coins. Such resemblances lead one to suppose that the two races have followed a common prototype. It would perhaps be an obstacle to this hypothesis that they were so widely separated by time and distance. The dynasty of the Chalukyas of Dekkan who adopted the type of coin which we allude to, is known but from the beginning of the 5th century of our era; they have, however, preserved a tradition that 59 generations of their ancestors had ruled in the countries to the north of the Nerbudda, and consequently not far from the common cradle of the Indo-European race as well as of others.

In another essay, that on some lately discovered sepulchral tumuli, containing more than one cell and one urn, the author, after giving a list of a number of tumuli in Scandinavia in which cells and several urns have been discovered, placed partly horizontally side by side, and partly vertically at different heights, remarks that the archaeologists of the North are ordinarily of opinion that such tumuli are destined to receive each the remains of the different members of one particular family. The author, however, does not participate in this opinion; he thinks that the explanation regarding these tumuli and their accessories, should be sought by comparing them with the topes and tumuli of Asia. It is known that in them there have been discovered more than one cell and one urn, the same as in the monuments of the North, and Mr. Holmboe finds the solution of this peculiarity in the description of the erection of the Mahástupa of Ceylon. The Mahávanso (Turnour's Translation, I p. 29,) relates that upon Rájá Dhuthagamani's having laid the foundation of the monument, in the second century before our era, and deposited the relics of saints in his cell, thousands of relics were deposited by the people on the principal cell. This narrative leads to the conclusion that a great number of persons had preserved the relics of a number of dead of their family in order to avail themselves of the occasion to deposit them in a magnificent monument; and as the narrator does not describe this affair as anything extraordinary, we may suppose that the placing of different relics in one monument was a common custom. As supports to this hypothesis, Mr. Holmboe cites many examples of relics which had been preserved for a long time before getting a resting place in a monument, or under the earth.

In pagan times, when the Scandinavians had the custom of burning their dead, they could without inconvenience preserve the relics somewhere, waiting for the occasion of the erection of a monument where they could be finally deposited. Hence it is to be supposed that the plurality of relics in a monument is not always due to one family only, but sometimes to different families.

Bábú Pratápachandra Ghósha exhibited a magnificent Persian MS. of Jámí's *Khiradnámah-i-Sikandarí* belonging to him.

Mr. Blochmann said that the MS. was written in 945 A. H. (or 1538 A. D.) at Bukhárá by a copyist of the name of Mír 'Alí. Though the writing is truly beautiful, the copyist does not appear to be the famous Mír 'Alí of Harát, who is mentioned by Abulfazl in the *Áin* (Translation, p. 102); for the famous Mír 'Alí, according to a statement in the *Mír-átul 'A'lam*, died in 924 A. H.

The MS. also bears on the fly-leaf the autographs of Jahángír and Sháhjabán. They are—

الله اكبر

پنجم آذر سنه داخل كتابخانه اين نيازمند درگاه الهي شد حرره نورالدين
جهانگیر بن اکبر پادشاه در خط اول در تصویر سیویم * (sic)

Allahu Akbar!

On the fifth Azar of the first year this book was put into the library of this adorer of the throne of God. This has been written by Núr-ud-dín Jahángír son of Akbar Pálisháh, on the first page of the MS., and on the third page of the pictures.

بسم الله الرحمن الرحيم

این خردنامه مسکندری که نگاشته نادره عصر ملک میرعلیست بتاریخ بیست
و پنجم ماه بهمن الهی موافق هشتم شهر جمادی الثانی سنه ۱۰۳۷ هجری
که روز جلوس مبارک است داخل کتابخانه این نيازمند درگاه شد حرره
شهاب الدین محمد شاه جهان پادشاه ابن جهانگیر پادشاه بن اکبر پادشاه
غازی * قیمت سه هزار روپیه مقرر شد *

In the name of God, the merciful, the clement!

This copy of the Khiradnámah-i-Sikandarí, which is a master-piece of Mullá Mír 'Alí, was put into the library of this adorer of the throne

on the 25th Bahman [of Akbar's Era], corresponding to the 8th Jumáda II., 1037 A. H.; which is the auspicious day of my accession. This has been written by Shihábuddín Muhammad Sháh Jahán Pádisháh, son of Jahángír Pádisháh, son of Akbar Pádisháh-i-Ghází. The value of this book has been fixed at three thousand rupees.

Jahángír's handwriting looks childish and stiff; Sháhjahán's autograph, which corresponds to the autograph in the Pádisháhnámah of the Society, is written in a clear and current hand.

Jahángír had early commenced to read. "He got his first lesson," says Badáoní, "on the 22nd Rajab 981 [when the prince was four years old]. His teachers were the pious Manláná Mír Kalán, the *Hadís* collector (*muhaddís*) of Harát, an angel in human shape, and Mírán Sháh, son of Mír Jamáluddín Muhaddís. The first lesson consisted in learning and writing the formula—

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ عَمَّ الْقُرْآنِ

In the name of God, the merciful, the clement, he has taught the Qorán."

The difference in the headings of the autographs is noticeable. The use of the formula *Alláhu Akbar* has been explained in the *Xin* (*vide* p. 166). Jahángír's religion was an extraordinary compound of Islám, Hinduism, fire-worship, and their superstitious ideas and usages. In his "Memoirs," he sometimes speaks of his father as a saint or prophet, and of the sun as God; he confirmed the Hindú practices introduced at Court by Akbar; he uses of dying Muhammadans the phrase *dar jahannam raft* (he went to Hell)—which Muhammadan writers apply to Hindús; he had been for forty years an opium eater, and was a drunkard from his sixteenth year.*

* Jahángír says in his Memoirs that at first he drank sweet wine, then 'araq *idúdtishah*, or doubly distilled arrack, increasing his daily quantum, in the course of nine years, to twenty *piyálahs* or six Hindústání *seers*, when he was saved from death by Humám, the Court doctor, who during the following seven years limited the allowance to seven *piyálahs*. The daily quantity of opium which Jahángír took, was subsequently limited to 8 *ratís*.

Akbar's two younger sons died of *delirium tremens*. The native Historians of India reveal an amount of drunkenness among Muhammadan and Hindú courtiers, before the arrival of Europeans in India, which, from the sober habits of the middle classes of both races, one would scarcely expect.

Sháhjahán was no drunkard. When twenty-four years old he drank, for the first time in his life, a cup of wine, 'to oblige his royal father.' *Travels*, p. 150.

Sháhjahán, on the other hand, is looked upon by Muhammadan historians as the reviver of the Islám at the Moghul Court. He abolished most of the Hindú ceremonies, and the *sijdah*, or prostration, which Akbar and Jahángír had enforced. "When His Majesty [Sháhjahán]," says the *Pádisháhnámah*, "mounted the throne, he directed his imperial care to the re-introduction of the customs of the Islám, the strict observance of which had died away, and turned his august zeal to re-building the edifice of the law of the prophet, which had all but decayed."

This explains the Muhammadan formula which Sháhjahán has put over his autograph.

In conclusion, it is worth noticing that the autograph contains Sháhjahán's own statement regarding the day of his accession. The *Mir-át ul 'álam*, and the *Pádisháhnámah* refer likewise the accession to the *eighth* Jumáda II., but Kháfi Khán, whom Elphinstone follows, gives the *seventh* Jumáda II.

LIBRARY.

List of books, received since the last meeting.

* * Names of Donors in Capitals.

Presentations.

Jahrbücher der K. K. Central-Anstalt für Meteorologie und Erd-magnetismus, von K. Kreil; Band I-VIII; Jahrgang 1848 1856.—KAISERLICHE AKADEMIE DER WISSENSCHAFTEN IN WIEN.

Beobachtungen von Sonnen-flecken und Bestimmung der Rotations-elemente der Sonne, von Dr. J. G. Böhm.—THE SAME.

Einfluss des Mondes auf die Horizontale Componente der magnetischen Erdkraft, von K. Kreil.—THE SAME.

Variationen der Declination der Magnetenad beobachtet in Krakau, von Dr. M. Weiss.—THE SAME.

Ueber die ewigen Gesetze der Natur, die Einfachheit, die Einheit und das allmähliche Uebergehen, von Dr. Boué.—THE SAME.

Ueber den täglichen Gang der vorzüglichsten meteorologischen Elemente aus den stündlichen Beobachtungen der Prager Sternwarte abgeleitet, von Dr. C. Jelinek.—THE SAME.

Die Algodon-Bay in Bolivien, von Dr. F. von Bibra.—THE SAME.

Einfluss des Mondes auf die magnetische Declination, von Dr. C. Kreil.—THE SAME.

Entwurf eines meteorologischen Beobachtunges-systems für die Oesterreichische Monarchie, von C. Kreil.—THE SAME.

Orographisch-Hydrographische Studien über das Gebiet des Oesterreichischen Kaiser-staates, von V. Streffleur.—THE SAME.

Bericht über das Erdbeben am 15th Jänner 1858, in den Karpathen und Sudeten, von L. H. Jeitteles.—THE SAME.

Anleitung zu den magnetischen Beobachtungen, von K. Kreil.—THE SAME.

Beiträge zur Construction selbstregistrirender meteorologischer Apparate, von Dr. C. Jelinek.—THE SAME.

Einiges über Wasserstands—Beobachtungen und deren Aufzeichnung, von V. Streffleur.—THE SAME.

Die Höhenverhältnisse Siebenbürgens, von G. Binder.—THE SAME.

Bericht über die K. K. Central-Anstalt für Meteorologie und Erd-magnetismus, von K. Kreil.—THE SAME.

Übersichten der Jahres- und Monats-mittel aus den während eines Zeitraumes von 20 Jahren in Lemberg fortgeführten meteorologischen Beobachtungen, von Professor Kunzek.—THE SAME.

Bericht über das von der Kaisrl. Akademie beschlossene meteorologische Unternehmen, von Professor Dr. Kunzek.—THE SAME.

Beitrag zur Klimatologie von Central Afrika, von dem W. M. Director Kreil.—THE SAME.

Beitrag zur Theorie der Gauss'schen Tangentenboussole, von Dr. V. Pierre.—THE SAME.

Untersuchungen über das Atmosphärische Ozon, von P. A. Reslhuber.—THE SAME.

Ueber eine Methode, die Spannkraft der Dämpfe in der Luft direct zu messen, von Dr. V. Pierre.—THE SAME.

Ueber elektrische Lampen, von F. Pekarek.—THE SAME.

Tafeln zur Vergleichung und Reduction der in verschiedenen Längenmassen abgelesenen Barometerstände, von J. J. Pohl und J. Schabus.—THE SAME.

Ein Condensations-Hygrometer, von K. V. Souklar.—THE SAME.

Ueber die Natur und die Wirkungen der Wildbäche, von V. Streßner.—THE SAME.

Beiträge zur Kenntniss des Ozon und des Ozongehaltes der atmosphärischen Luft, von J. Pless und Dr. V. Pierre.—THE SAME.

Ueber die Verwendbarkeit des Mitscherlichschen Polarisations, Saccharimeters zu chemisch-technischen Proben, von Dr. J. J. Pohl.—THE SAME.

Ueber den Gebrauch des Thermo-Hypsometers zu chemischen und physicalischen Untersuchungen, von Dr. J. J. Pohl.—THE SAME.

Tafeln zur Reduction der in Milimetern abgelesenen Barometerstände auf die normal Temperatur von 0° Celsius berechnet, von J. J. Pohl und J. Schabus.—THE SAME.

Tafel zur bestimmung der Capillardepression in Barometern, von J. J. Pohl und J. Schabus.—THE SAME.

Ueber Sicherheit barometrischer Höhenmessungen, von A. J. Pick.—THE SAME.

Die geographische Verbreitung der Gewitter in Mittel-Europa in Jahre, 1856, von Dr. M. A. F. Prestel.—THE SAME.

Untersuchungen über das Gesetz des Einflusses der Lufttemperatur auf die Zeiten bestimmter Entwicklungsphasen der Pflanzen mit Berücksichtigung der Isolation und Feuchtigkeit, von K. Fritsch.—THE SAME.

Ueber die Störungen des täglichen Ganges einiger der wichtigsten meteorologischen Elemente an Gewittertagen, von Dr. K. Fritsch.—THE SAME.

Anleitung zur Ausführung von Beobachtungen, von C. Fritsch.—THE SAME.

Meteorologische Tafeln für Prag, von C. Fritsch.—THE SAME.

Ueber die constanten Verhältnisse des Wasserstandes und der Beeisung der Moldau bei Prag, so wie die Ursachen von welchen dieselben abhängig sind, nach mehjährigen Beobachtungen, von C. Fritsch.—THE SAME.

Ueber die Temperatur-Verhältnisse und die Menge des Niederschlages in Böhmen, von K. Fritsch.—THE SAME.

Weitere Belege für eine seculäre Aenderung der Lufttemperatur, von K. Fritsch.—THE SAME.

Die Lichtmeteore in der Atmosphäre als Vorzeichen von Niederschlägen, von K. Fritsch.—THE SAME.

Uebersicht der höchsten Wasserstände an den vorzüglichsten schiffbaren Flüssen in Oberösterreich von den Jahren 1572 inclusive 1862—zusammengestellt durch die K. K. Oberösterreichische Landesbaudirection, mitgetheilt vom hohen K. K. Staatsministerium.—THE SAME.

Reisebericht aus Chartun vom 25th October, 1852, von Dr. Heuglin.—THE SAME.

Bemerkungen über sein Werk *la Turquie d'Europe etc.* Paris 1840 und einen der K. Akademie überreichten geographisch—geognostisch—und ethnographischen Atlas der europäischen Türkei, bestehend aus 13 Karten, von Dr. Ami Boué.—THE SAME.

Ueber die Nothwendigkeit die Erdbeden und vulcanischen Erscheinungen genauer als bis jetzt beobachten zulassen, von Dr. Boué.—THE SAME.

Eisverhältnisse der Donau, beobachtet in Pesth in den Jahren 1847-49, von Profsr. Dr. J. Arenstein.—THE SAME.

Ueber die Wirkungen der natürlichen Elektricität auf elektro-magnetische Telegraphen, von A. Baumgartner.—THE SAME.

Ueber Leitkraft der Erde für Elektricität, von A. Baumgartner.—THE SAME.

Ueber die Abhängigkeit des elektrischen Leitungswiderstandes von der Grösse und Dauer des Stromes, von M. Benedikt.—THE SAME.

Ueber die Aenderungen des Magnetismus unter dem Einflusse elektrischer Vertheilung, von M. Benedikt.—THE SAME.

Physicallische Verhältnisse und Vertheilung der Organismen im Quarnerischen Golfe, von Dr. J. R. Lorenz.—THE SAME.

Vergleichende orographisch-hydrographische Untersuchung der Versumpfung in den oberen Flussthälern der Salzach, der Enns und der Mur, oder in Penzgau, Pongau und Lungau, von Profsr. Dr. J. R. Lorenz.—THE SAME.

Brakwasser-studien an der Elbemündung, von Dr. J. R. Lorenz.—THE SAME.

Anzeiger der Kaiserlichen Akademie der Wissenschaften, Math. Naturw. Classe, IV. Jahrgang, 1867 No. I—XXX and Jahrgang 1868, No. I—IX.—THE SAME.

Ueber das Verhalten und die Vertheilung der Winde auf der Oberfläche der Erde, sowie insbesondere über die Windverhältnisse am Cap Horn, von F. von Willerstorf—Urbair.—THE SAME.

Ueber das Magnetische Observatorium in Kremsmünster und die vom Jahre 1839-50 aus den Beobachtungen abgeleiteten Resultate, von P. A. Reslhuber.—THE SAME.

Erste Ergebnisse der magnetischen Beobachtungen in Wien, von K. Kreil.—THE SAME.

Resultate aus den magnetischen Beobachtungen zu Prag, von K. Kreil.—THE SAME.

Resultate aus fünf-monathlichen Beobachtungen in Chartun, von K. Kreil.—THE SAME.

Magnetische und geographische Orts-betsimmungen an den Küsten des Adriatischen Golfes in Jahre 1854, von K. Kreil.—THE SAME.

Untersuchungen über das Gesetz des Einflusses der luft-temperatur auf die Zeiten bestimmter Entwicklungs-phasen der Pflanzen mit Berücksichtigung der Insolation und Feuchtigkeit, von K. Fritsch.—THE SAME.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften Math-Naturw. Classe, Band LVI, Heft II, erste Abtheilung, Heft III 1-2. Hefte IV-V; 1-2. Band LVII Heft I, 1 Abtheilung. Heft II Abth. 1, 2, Heft III, abth. 1-2.—Philos. Hist. Classe, Band LVI; Heft III; Band LVII Heft 1, 2-3; Band LVIII, Heft 1-2.—THE SAME.

Archive für Oesterreichische Geschichte, Band XXXVIII, Hälfte 2 Band XXXIX, Hälfte 1-2.—THE SAME.

Denkschriften der Kaiserlichen Akademie der Wissenschaften, Math-Naturw. Classe, Band XXVII and XXVIII.—Philos. Hist. Classe, Band XVII.—THE SAME.

Almanach der Kaiserlichen Akademie der Wissenschaften, Jahrgang 1868.—THE SAME.

Tabulae codicum manuscriptorum praeter Graecos et Orientales in Bibliotheca Palatina Vindobonens asservatorum, volumen II.—THE SAME.

Reise der Oesterreichischen Fregatte Novara, Anthropologischer Theil von Dr. A. Weisbach.—THE SAME.

Atti della Reale Accademia delle Scienze di Torino, vol III, Disp. 1-8.—THE ROYAL ACADEMY OF SCIENCE OF TURIN.

Memorie della Reale Accademia della Scienze di Torino, 2nd series vol 24.—THE SAME.

Catalogo delle Leoneidi o stelle meteoriche del periodo di Novembre.—THE SAME.

Journal of the Chemical Society No. for March 1869.—THE CHEMICAL SOCIETY OF LONDON.

Proceedings of the Royal Society, Nos. 109 and 110, 1869.—THE ROYAL SOCIETY.

Proceedings of the American Philosophical Society, No. 80, 1868.—THE AMERICAN PHILOSOPHICAL SOCIETY.

Bulletin de la Societe de geographic, Mars and Avril, 1869.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Journal Asiatique, December 1868 and January 1869.—THE ASIATIC SOCIETY OF PARIS.

Verhandlungen der K. K. Geologischen Reichsanstalt, Nos. 7 and 11, 1868.—THE IMPERIAL GEOLOGICAL INSTITUTE OF VIENNA.

Jahrbuch der K. K. Geologischen Reichsanstalt, Nos. 2 and 3, 1868.—THE SAME.

Verhandlungen der Kaiserlich. Königlichen Zoologisch-Botanischen Gesellschaft in Wien.—THE IMPL. ZOOL. BOT. SOCIETY OF VIENNA.

Die Diatomeen der Hohen Tatra, bearbeitet von J. Schumann.—THE SAME.

Diagnosen der in Ungarn und Slavonien bisher beobachteten Gefasspflanzen welche in Koch's Synopsis nicht enthalten sind, von Dr. A. Neilreich.—THE SAME.

Beitrag zu einer Monographie der Sciarinen, von J. Winnertz.—THE SAME.

India as represented in the Hymns of the Rigveda; by J. Muir.—THE AUTHOR.

Diseases of the Eye; by C. Macnamara.—THE AUTHOR.

Travels of a Hindoo; by Bholanauth Chunder.—THE AUTHOR.

Professional Papers on Indian Engineering; by Major J. G. Medley, R. E.—THE EDITOR.

Ramayana, vol I, P. VI; by Hemachandra Bhattarcharya.—THE EDITOR.

The Hill Tracts of Chittagong and the dwellings therein, with com-

parative Vocabularies of the Hill Dialects; by Capt. T. H. Lewen.
—THE BENGAL GOVERNMENT.

Selections from the Records of the Government of the Punjab and its Dependencies, N. S. No. 2.—THE BENGAL GOVERNMENT.

Selections from the Records of the Madras Government,—Annual Report of the Madras Medical College Session 1867-68, No. X.—THE BENGAL GOVERNMENT.

Report on the Results of the Administration of the Salt Department during the year 1867-68.—THE BENGAL GOVERNMENT.

Selections from the Records of Government, second series, vol. II, No. 11.—THE GOVT., N. W. PROVINCES.

Results of a Tour in Dardistan, Kashmir, Little Tibet, Ladak, Zanskur, &c.; by Dr. G. W. Leitner, vol I, Pt. 1-2.—THE PUNJAB GOVT.

Purchase.

The Annals and Magazine of Natural History, Vol. III. No. 16, 4th Series.

Comptes Rendus, Tome LXVIII, Nos. 9 to 14, 1869.

Journal des Savants, February, March, 1869.

The Quarterly Journal of Science, No. XXII, 1869.

The American Journal of Science and Arts, Nos. 139 and 140, 1869.

Revue et Magasin de Zoologie, Nos. 2 and 3, 1869.

Revue Archeologique, March and April, 1869.

Revue des deux Mondes, 15th March, 1869.

Edinburgh Review, No. 269, 1869.

Westminster Review, April, 1869.

Sanskrit Wörterbuch, 39 Lieferung, Bogen 1—10.

The Indian Medical Gazette, Vol. IV, No. 7, 1869.

Dictionaries, by Zenker, Heft XIII, Bogen 121-130.

Original Sanscrit texts on the origin and history of the people of India, their religion and institutions, collected translated and illustrated; by J. Muir, D. C. L., LL. D., Ph. D.—Vol. III.

Travels of Fah-Hian and Sung-yun, Buddhist Pilgrims from China to India (400 A. D. and 518 A. D.); by S. Beal.

Exchange.

Athenæum, April, 1869.

Errata in the previous numbers of these Proceedings.

Page 105, lines 10, 12 and 28 for "A. E. Carlleyl" read A. C. L. Carlleyle.

— 127, line 3, for "Rámahmaya" read Rámamaya.

— 128, „ 7 & 9, for "Yajurs" read Yajus.

— 129, „ 8, for "codices of two or three commentaries" read two or
three codices of the commentary.

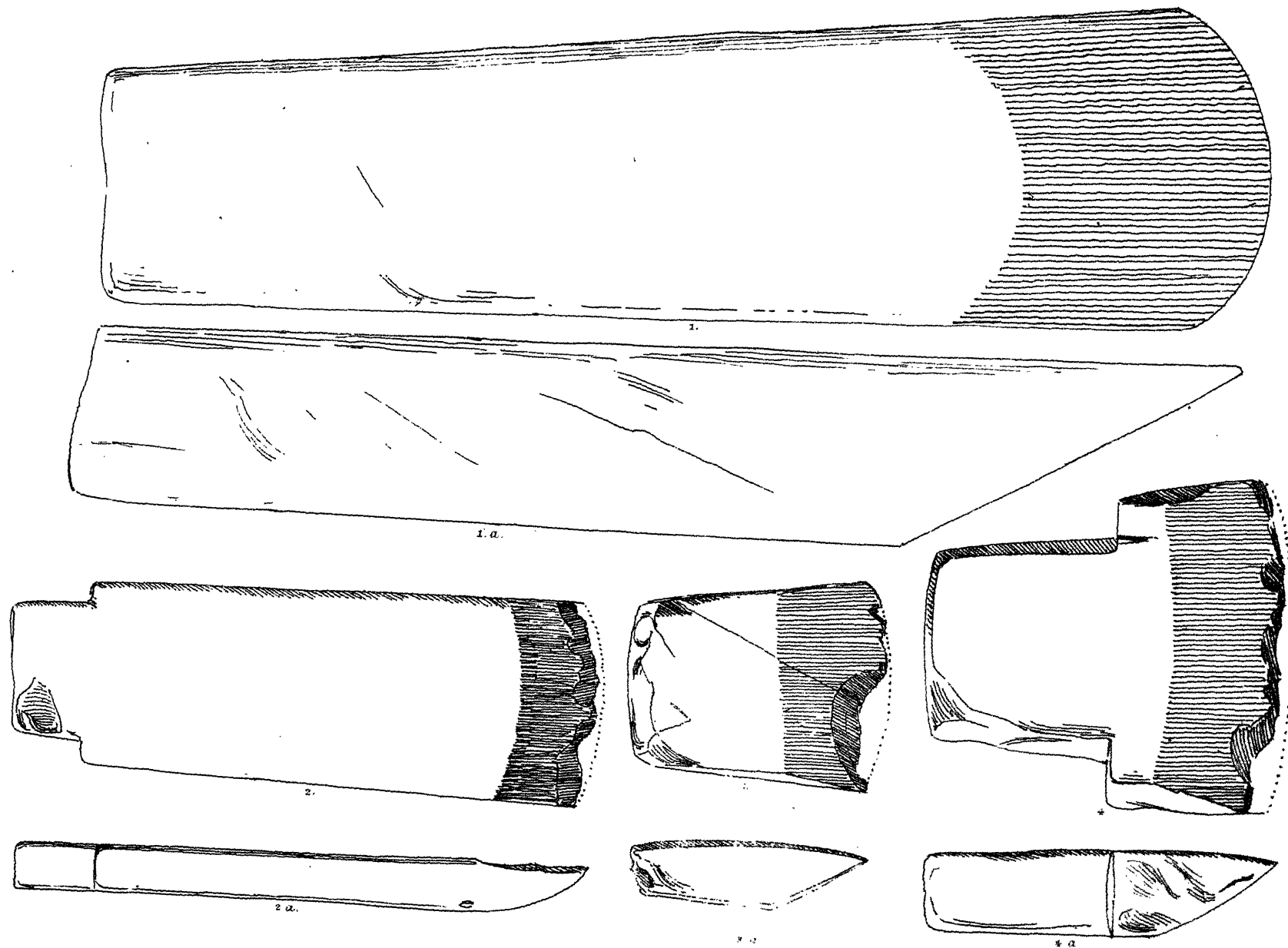
— „ „ 16, for "between" read of between.

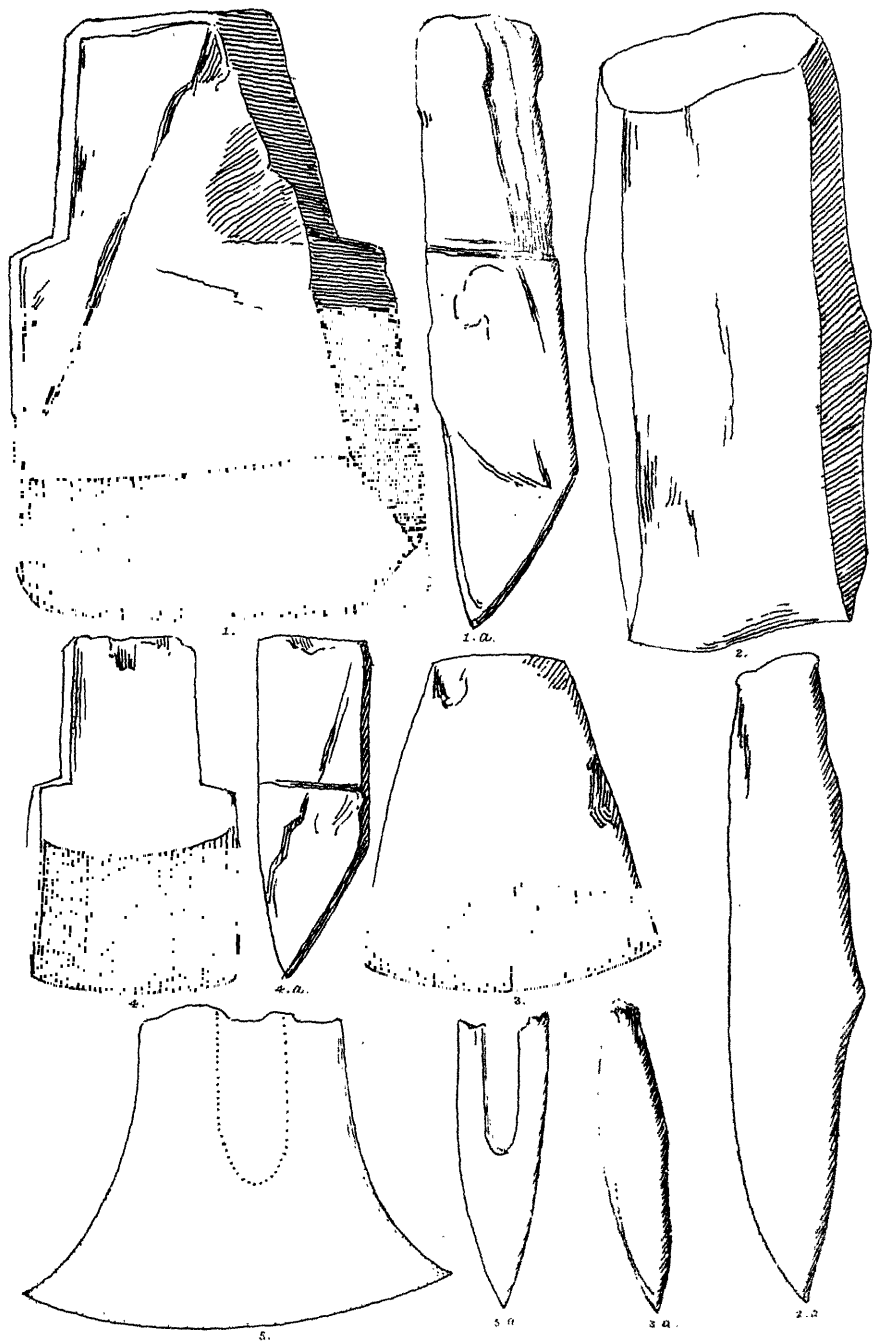
— „ „ 18, for "Dupetron" read Duperron.

— 133, „ 8, for "the initial line" read initial lines.

— „ „ 28, for "A. C. Carllyle" read A. C. L. Carlleyle.

— 134, „ 5, for "there" read their.





ERRATA.

In the Proceedings for July, p. 178, l. 4, from below, *read* W. M. CLAY, Esq.; C. S., *for* A. L. CLAY, Esq., C. S.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL

FOR AUGUST, 1869.

A meeting of the Society was held on Wednesday, the 4th Instant, at 9 o'clock p. m.

T. Oldham, Esq., LL. D., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Government of India, Home Department. A set of twenty photographs of the caves and Temples of Nassick, taken by Mr. Sykes, photographer, Bombay.

2. From W. Oldham, Esq., LL. D., Ghazee pore. Specimens of bricks, bearing inscriptions, found at Musar near Arrah.

The inscriptions are *Pālī*, but owing to the broken state of the bricks, the characters have not yet been completely deciphered. The fragments shew that each brick contained the same word.

3. From G. Smith, Esq., LL. D., a copy of 'Memorials of the Rev. John Pourie.'

4. From Father E. Lafont, S. J., a copy of 'Daily Meteorological Observations at the St. Xavier's College Observatory, January to June, 1869.'

5. From A. Cameron, Esq., a copy of a pamphlet on the Dyaks of Borneo.

6. From Mohendralāla Sircar, M. D., a copy of the Calcutta Journal of Medicine, Vol. II, parts 2 and 3.

The following gentlemen duly proposed and seconded at the last meeting were balloted for and elected Ordinary Members—

J. W. Selbach, Esq.

Prince Jahān Qadr Mīrzā Muhammad Wāhid 'Alī Bahādur.

The following gentlemen were named for ballot as Ordinary Members at the next meeting—

E. Hyde, Esq., Barrister-at-Law, proposed by Colonel Hyde, seconded by the President.

Major G. E. Fryer, Deputy Commissioner, British Burma, proposed by Colonel Sir A. P. Playre, seconded by the Secretary.

J. Westland, Esq., C. S. Acting Secretary, Government of Bengal, proposed by Colonel H. Hyde, and seconded by the President.

J. H. Fisher, Esq., C. S., proposed by Mr. R. M. Adam, seconded by Dr. F. Stoliczka.

Geo. Latham, Esq., C. E., proposed by the President, seconded by W. King, Esq.

Babu Juddulall Mullick, proposed by Maulawī 'Abdullatif Khan Bahádur, seconded by R. A. Gubboy, Esq.

The following gentlemen have intimated their desire to withdraw from the Society—

W. A. D. Anley, Esq.

J. B. N. Hennessey, Esq.

The President stated that he had on the part of the Council to report to the Society, that the question of the cost and form of the publications of the Society had been fully discussed by them, and that taking into consideration the fact that the Proceedings of the Society, which at first extended only to a few sheets for each month, and contained little more than the formal business of the Society, had since then been vastly extended, and now contained many very valuable, although brief, contributions to the Society, and formed at the close of the year a very fair-sized volume, it had been resolved—That the rate of subscription for the Proceedings, to Non-Members, should be fixed at *Four Rupees* per annum, and that monthly numbers should be sold at *Eight Annas* per copy.

The prices, as originally fixed, of two annas per number to subscribers, and three annas to non-subscribers, did not in the present enlarged form of the Proceedings nearly cover the cost. The Proceedings would continue to be issued to the Members of the Society as at present.

The alteration in the price to take effect from the 1st of January, 1870.

The President said, he had further to report from the Council, that

good progress had been made in the preparation of a new Catalogue of the Library of the Society, the want of which was so seriously felt by all. Several members of the Library Committee had taken much interest in the matter, and it was hoped that a complete list might be ready before the close of the year. To enable this to be done satisfactorily, it was essential that the large number of books now in the hands of Members of the Society should be compared and checked with the lists. And the Council had therefore resolved that at the close of the rains, all books now borrowed by Members of the Society be called in, for comparison and entry in the new Catalogue. They proposed meanwhile to issue a notice to this effect, on the cover of the Proceedings, so that the Members might be prepared. The Council trusted that the Members would cordially second this effort to complete a Catalogue of their Library. And he might remark that the sooner the books were sent in, the sooner such as were again required could be returned to the Members. It was not intended to make this request for the return of books until after the rains, when they could be transmitted with greater safety.

The President said, I have the pleasure of exhibiting to the Society a coin or medal, which I had some time since received from Major Strutt of Kangra. I have made every exertion to have the history and date of this curious coin elucidated, but with very partial success. Immediately on receipt of the coin, I sent it with Major Strutt's note to Babu Rajendralala Mittra. Unfortunately, he was at the time very unwell, and returned me the coin very soon, saying, he had been quite unable to give to it the attention it deserved. But he thought the legend was in Arabic character. I then submitted it to our Secretary, Mr. Blochmann, who being much pressed with other work at the time, was unable to give any very careful examination of the coin. I then sent it to Mr. E. C. Bayley, and received from him in reply the following note :—

"I return *per dak* Major Strutt's coin. I have little doubt of the *class* of coins to which it belongs.

First of all, however, I should say I believe it to be a *forgery*—a cast that is from an original, and in casting the letters of the inscription have become more confused and obliterated than in the original, itself much worn and corroded.

I take it to belong to a series struck by a line of Turkoman Princes, surnamed "Ortokites," from "Artak" or "Ortok," one of their progenitors. The first of their line who figures in history, was this chief named Artak ibn Aksah, who seized Jerusalem about the close of the 11th century. He died about 1091, and his sons were driven out and founded two dynasties, one over 'Irâq, the other in Syria, first at Diyârbakr, then at Mardîn. To the latter belonged the celebrated Salâhuddîn, or Saladin, and to it I think belongs this coin, though I suspect it is an unpublished type. I am not quick at reading the old Square Cufic in which the legend is embodied, and the characters, as I say, are very worn. I *think*, I can read 'Salâhuddîn, and 'Tartash' or 'Taktash' or 'Tabaktash,' but I can find no name like the latter given in the lists.

The two elephants have an oriental touch, and the lion and scorpion belong, I have no doubt, to some zodiacal reference. The coin or medal was probably struck in commemoration of some special event."

On again receiving the coin, I had hoped that possibly Mr. Blochmann would have been able to investigate it more closely. But Major Strutt has requested that it may be returned to him, and there is therefore no time at present to do more than exhibit it to the Society, and ask any of the members present if they can throw any further light on the question.

The following papers were read—

I.—*Extract from a report by Captain R. A. COLE, on Cromlechs in Southern India.*

"The Chief Commissoner inspected some cromlechs discovered on the top of the Moory Betta hill in North Coorg, and directed some to be excavated. Some of these had concentric rows of upright stones, and two of them had upright slabs arched above, so as evidently to have formed an arched entrance within the enclosure. Portions of the arches have been destroyed by the ravages of time. The space within the concentric rows of stones was excavated, and earthen vessels of the exact pattern and description found elsewhere were discovered, but *all in miniature*. These vessels bear the same relative proportion to the larger vessels found in the cromlechs elsewhere as the small toy chatties of native children do to the larger vessels in common use at

the present day. Several beads and tubes, bored through and evidently portions of necklaces were also found. These are of the colour and description of agate and have circles in white round, with a zigzag pattern in white in the centre."

A conversation ensued in which the President and several Members joined. The clay vessels which Capt. Cole had kindly forwarded to the Society, unfortunately arrived greatly broken.

II.—*Notes on a Copper-plate Inscription in the possession of certain Kols at Nāgpur, by BABU RAKHAL DAS HALDAR, Special Commissioner, Chotā Nāgpur.*

I forward a fac-simile of a copper-plate inscription, insignificant in itself, but of some consequence from the fact that certain Kols of Chota Nagpur converted to Christianity are carrying it about as the original pattā granted by the Acahārājā of Chota Nagpur surrendering half of the country to the Kols.

The agitation recently set on foot by a number of converted Mundās and Orāons anent their rights as peasant proprietors, has become a matter of some notoriety. Reduced to a state of serfdom for some centuries past by the Hindu landlords, these people have, since their conversion to Christianity, begun to realize their own position; and with remarkable zeal and unanimity of purpose, have consistently endeavoured to better their condition, and have even induced the Government to pass an act which promises to secure them their just rights. It has, however, been known to the local authorities that the zeal of these Kols frequently outran their discretion and knowledge; and the object of my sending the fac-simile to the Society is to present a case in point. I trust that the matter may obtain publicity by means of the Society's "Proceedings." It is exceedingly probable that by exhibiting the original inscription, the 'agitators' have induced many a poor and ignorant Kol to part with his hard-earned money in support of their common cause.

The inscription is in Sanskrit, in Oriyā character. It is a grant of a village by one Rājā Jayanta Sinha and his wife Ratna Kumāri to a Brahman by name Kāsínātha Madher. The date is 1861, Samvat, Ashārh, Sunday, when an eclipse seems to have happened. From the Chakra Santak, or representation of

Vishnu's discus on the top, the inscription appears to belong to Sambhalpur or Sonpur, the Nagpur rājās never having used the insignia in question. The inscription has to do as much with the Kols and their lands as with the mountains in the moon; it behoves therefore their advisers to warn them not to endamage a cause, in many respects a praiseworthy one, by making the copper-plate inscription the basis of their claim.

Below are my transliteration and translation of the inscription, the doubtful words or passages being in *Italics*.

Transliteration.

Srimadvīra Jayanta Sinha nripati-*stat 'sreshtha patnī tathā.*

nāmnā Ratna Kumārikā gunavatī rājnām kule bhāvinah,

bhūpālā nihayā chate navaratam srinwantu bho mad vacho.

yaṭṭām peḍa kaleti lokaviditam grāmam praditsurmudā, (I).

Ashārhe Ravibāsare subha tithau *tatrōparāge sinī.*

vālyām vai* dvija deva vahni savidhe kṛitwā suvākyam mahat,

grāmah saivalani jalāsaya vanārāmādri kāsthādibhir.

yukta swarna nidhānakhāta sahito dattah sasīmomayā (II).

Biprāya veda-vidushe bahu-srutāya sántāya karmani-nije-parinish-
ṭhatāya deva-dwijāti-gurupāda-ratāya Kāsīnāthāya kántavapushe guṇa-
vattarāya (III).

Rakshantu kīrtimatulam mamatavadete yevātra lobha vasatah
pravilopayanti te Somalendu (?) Vimalaswara Dharmarāja pādeshu
vipriyahrīdo narake pateyuh (IV).

Samvateshṭā dasa sate ekashastyuttarākhyake.

Vikramālitya bhūpasya nirmitā tāmra putrikā (V).

Kasīnātha Madhu srimān Vanamāli samanvitah.

Swarbhānu vatsare dattam bhukshwa grāmamakaulukum (VI).

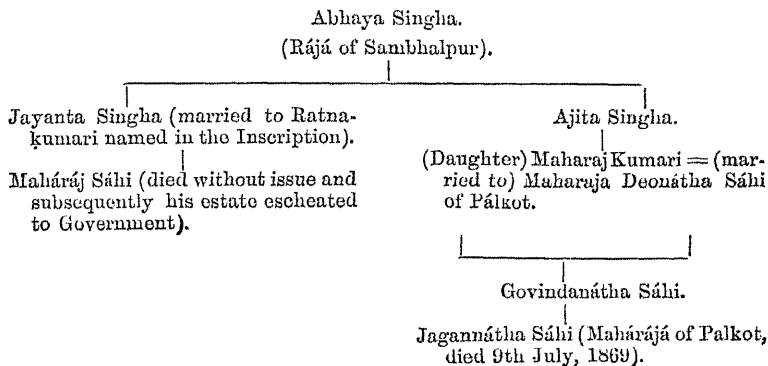
Sahi.

In conclusion, I have to add that I have not been able to discover how the plate fell into the hands of the Kols. I was told, it was found near Ladhmnā, some fourteen miles south-west from Ranchi; could it be supposed that some native of Sambhalpur or Sonpur had mislaid it on his way to the head quarters of the South West Frontier Agency?"

Translation.

"The distinguished Rajni, by name Ratna Kumári, chief consort to the illustrious and valorous Jayanta Singha (1) lord of men, asks this constantly of the princes who may be [born] in her race: Hear ye my words! I am desirous of giving away that village known in the country as Támperkalá (2); [accordingly] on Sunday in Āshāṛḥa, in the auspicious *tithi*, the moon being eclipsed (3), I made good my promise in the presence of the gods and the Brahmanas, with all due formalities.* The village with its rivers, tanks, forests, groves, hills, woods, veins of gold, &c., wines, and the boundaries, I present to the Bráhmāna Kásínátha (4), who is versed in the Vedas, well informed, of a quiet turn of mind, attentive to his duties, devoted to the feet of the twice-born and the spiritual guide, being also handsome in person and full of merits. Let them preserve this my incomparable work of fame. Those who, being subject to covetousness, shall rescind this, shall, with hearts not devoted to the feet of Somalá (5), Indu (6), Vimale Swara (7), and Dharmarāja (8), fall into the hell. In the Samvat year 1861, of King Vikramāditya, this copper-plate was prepared, and the grant made to Kásínátha, with Madhu (9) and the fortunate Vanamáli (10), in the year called Swarbhānu (11). Enjoy the village without impediment. Approved."

(1) Rájá of Sambhalpur. The following table shows his connection with the zemindar family of Pálkot.



* In his second note, Bábu Rakhál Dás Haldár, proposes the following translation—

- (2) This is a rather large village within a few miles of Sambhalpur.
- (3) I have verified this eclipse of the moon by referring to the almanac of 1861, Samvat.
- (4) Kásinátha Dása, Purohita to Rájá Jayanta Singha and Ráni Ratnakumári.
- (5) The guardian (female) deity of Sambhalpur.
- (6) The moon having been the prominent object on the night the grant was made, allusion has been made to her.
- (7) The guardian (male) deity of Sambhalpur.
- (8) Yama, or the god of justice.
- (9) Kásinátha's brother and Negí, or steward, to Ráni Ratnakumári.
- (10) Kásinátha's youngest brother, and Khánsámán or assistant Dewán to Ráni Ratnakumári.
- (11) This is probably the name of one of the years of the astronomical cycle of 60.

In a second note, received the day previous to the meeting, Bábu Rakhál Dás Haldár continues—

“A late trip to Pálkot has enabled me to subjoin a few notes. The Ráni Ratna Kumári, appears to have been at one time well known in the southern parts of Chota Nagpur; she resided at Rámpur in parganá Basiá, while her husband Rájá Jayanta (*vulgo* Jayati) Singha of Sambhalpur was captured and carried away by the Barghis (Bághis?), or Marhattas. I have been told that there was a civil suit regarding the village mentioned in the inscription. It was tried by the British Officer in charge of Sambhalpur, and the copper-plate was put in evidence. The decision in that case was appealed against in the Court of Mr. Allen, Agent of the Governor-General, South West Frontier, and of course the records were brought to Ranchi. Subsequently, the Mutiny of 1857 occurred, and in the general confusion, the plate fell into the hands of certain crafty Kols who did not scruple to use it as the original document, conferring half of Chota Nagpur on their ancestors! Of course, these men have taken care not to adduce the plate as evidence in any suit; I have been informed that they would not lend it to Colonel Dalton even for a day; they have duped only men of their own race.”

“Having made the magnanimous resolution before the twice-born, the gods, and the fire, on Saturday, in Asárlha, the *tithi* being auspicious, and an eclipse occurring on the occasion of the new moon which commenced on the fourteenth lunar day, &c.”

III.—*Contributions to the Chronology of the reigns of Tímúr and his Descendants up to Sháhjahán, No. I. By H. BLOCHMANN, Esq., M. A., Assist. Professor, Calcutta Madrasah.*

The object of this paper is to collect the statements of several Indian Historians regarding the dates of birth, accession, and death, of the Timurides up to Sháhjahán. For no period of Indian History do we possess better materials than for the times of the Moghul kings; we have contemporary histories, and even autobiographies, and yet, the chronology of their reigns is by no means so satisfactory as we might expect from the number of historical works. Differences in the dates of events of less importance are common enough, and may even be met with among modern Historians. But it is a matter of surprise, if historical writers disagree on more important dates, such as the birth, the accession, or the death of a king.

In some cases chronological differences are traceable to the carelessness of the historians. The *Tabaqát i Akbarí* by Nizámuddín of Harát affords a remarkable example. Of its chronology Badáoní says (II, p. 342)—

“On Thursday, the 19th Rabi’ I, 993, the season of spring had commenced, and the New Year’s day of the Emperor’s era took place. According to the work of Mírzá Nizámuddín Ahmad, who has arranged the history of His Majesty by years, the year 993 is the thirtieth year from the emperor’s accession; but the fact is, that the second *qaran* (a space of thirty years) begins from the 25th Rabi’ I, 994, when His Majesty was at Aṭak Banáras (Attock), as related below. The cause of this confusion is apparent* enough: the Mírzá has forgotten to take into account the intercalary days (*ayyám i kabásah*), which in three years amount to one lunar month, the difference between solar and lunar years being one year *per qaran*. As I have no astronomical tables with me, I have necessarily followed the chronology of the Mírzá; but the responsibility rests with him.”†

For similar hints *vide* Bad. II, p. 351, l. 1; p. 352; p. 356, l. 1; p. 365, middle.

The above remark of Badáoní shews that there is room for further

* In the edition of the Bibl. Indica, Bad. II, 342, read *hamánd* for *hamánjá*.

† In the text read *barást* for *bariwayast*.

enquiries, especially as later historians (e. g., *Khāfī Khān*) adopt the chronology of the *Ṭabaqāt*. The dates given in the *Akbarnāmah* on the other hand, are mostly solar, and rest upon the computations of Shāh Fathullah of Shīrāz (*vide Aīn Translation*, p. 38). Farishtah professes to follow the *Akbarnāmah*, though he has used the *Ṭabaqāt*; and so have other historians done, as the authors of the *Sulātīn i Chagatāi* and the *Khulāṣatuttawārikh*.

On the whole, the chronology of Akbar's reign requires a thorough investigation; and unless a sufficient number of MSS. of the *Ṭabaqāt*, the *Akbarnāmah*, and *Badāionī*, be examined, we cannot expect to possess correct dates for his reign.

The introduction of Akbar's Solar Era, and its limited use, have also been the cause of much confusion. Thus Jahāngīr in his 'Memoirs' says that his son Shāhjahān was born in A. H. 999, or the 36th year of Akbar. But the fact is that the 36th (solar) year of Akbar corresponds to A. H. 1000, in the third month of which Shāhjahān was born.

Another source of confusion is this, that the date of proclamation of an emperor does not always coincide with the official date of his *julūs* (accession), and the striking of coins. This holds especially for the reign of Aurangzeb, the dates of which are not always trustworthy.

In some cases, lastly, chronological differences may be traced to the copyists of the MSS. Their mistakes are confined to certain numbers. Thus *بیستم* *bīstum* and *هشتم* *hashtum*, *هشتم* *hashtum* and *هفتم* *haftum*, *ششم* *shashum* and *شصتم* *shaṣṭum*, *دو* *do* and *ده* *dah*, *سی* *sī* and *سی* *sī*, are frequently interchanged.

The Historians after Jahāngīr appear to have paid some attention to the chronology of former kings. The author of the *Pādīshāh-nāmah* especially has devoted a long chapter (Edition Bibl. Indica I., pp. 41 to 80) to the chronology of the *Timūrīdes*, which chapter may advantageously be read by those who take a deeper interest in Indian history.

The following notes which refer chiefly to the genealogy of the *Timūrīdes*, are compiled from the *Akbarnāmah*, *Badāionī*, *Farishtah*, the *Tuzuk i Jahāngīrī*, the *Iqbāl-nāmah*, the *Pādīshāh-nāmah*, the *Mīr-ātul'ālam*, and *Khāfī Khān*. The remarks owe their origin to notes which I am the habit of taking when reading the editions of our

Bibl. Indica. With the exception of Stewart's translation of the *Waqi'at i Humáyin*, I have consulted no European work.

I. Qutbuddi'n Amír Tīmūr.

Title, *Gurgán* (son-in-law.) Title after death, *Çáhib qirán i a'zam* (Lord of the great conjunction.) Born at Kash (Shahrsabz), Monday night, 25th Sha'bán 736, A. H. Father, Amír Turághái. Mother, Naginah Khátún. *Julus* (accession), Wednesday 12th Ramazán 771, at Balkh. Died on Tuesday night, 17th Sha'bán 807. Age, 70 years, 11 months, 22 days.

His four sons, *a.* Ghiyásuddín Jahángír Mirzá.

b. 'Umar Shaikh Mirzá.

c. Jala'luddi'n Mí'ra'n Sha'h Mírza'.

d. Sháhrukh Mirzá.

a. Ghiyásuddín Jahángír Mirzá. Died at Samarqand, A. H. 776. His eldest son, Muhammad Sultán, died on the 17th Sha'bán 805. He had three sons (Jahángír, Sa'd Waqqác, and Yahyá). His second son, Mirzá Pír Muhammad, governor of Ghazni, was killed on the 14th Ramazán 809. He invaded India with Tímúr. He had seven sons—Jahángír, Qaiçar, Sanjar, Sa'd Waqqác, Búzanjir, Khálid, قید (?).

b. 'Umar Shaikh Mirzá, died in Rabi' I., 796.

He had four sons—Mançúr, Sikandar, Rustam, Pír Muhammad, of whom Mançúr had two sons, called Báyaqrá, and Sultán Uwais. Sultán Uwais had a son, Mirzá Muhammad Sultán, whose two sons are called Ulugh Mirzá, and Sháh Mirzá. Ulugh Mirzá had two sons, Muhammad Sultán Sháh Mirzá, and Sultán Sikandar Mirzá. Muhammad Sultán Sháh Mirzá had four sons—1. 'Aqil Mirzá; 2. Mas'úd Husain Mirzá; 3. Ibráhím Mirzá (who had a son Muzaffar Husain Mirzá); 4. Muhammad Husain Mirzá.

c. II. Jala'luddi'n Mí'ra'n Sha'h Mírza'.

(Third son of Tímúr.)

Born 769 A. H., reigned for a short time, died 24th Zí Qa'dah 810. He had eight sons—

- | | |
|----------------------|-----------------------------|
| 1. Abá Bakr Mirzá. | 5. Muhammad Khalíl. |
| 2. Alangar(?) Mirzá. | 6. Sulta'n Muhammad Mírza'. |
| 3. 'Usmán Chalbí(?). | 7. I'jíl Mirzá. |
| 4. Mirzá 'Umar. | 8. Siyúrghtamash. |

The mother of No. 6 is *Mīhr Nūsh*, ('az qaum i Fūlād Qayá.')

The above names of Mírán Sháh's eight sons are taken from the Akbarnámah (Lith. Ed.). In other Historical works, I have seen the names given as follows:—

- | | |
|----------------------------------|---------------------------|
| 1. Abá Bakr Mírzá. | 5. 'Umar Mírzá. |
| 2. Altakar (<i>sic</i>) Mírzá. | 6. Khalíl Mírzá. |
| 3. 'Usmán Mírzá. | 7. Sultán Muhammad Mírzá. |
| 4. Chalbí Mírzá. | 8. Siyurghtamash. |

The last had a son, named Mírzá Sultán Mas'úd.

d. Sháhrukh Mírzá. Title, *Kháqán i Sa'id*. Born on Thursday, 14th Rabí' II, 779. Died Sunday morning, 25th Zí Hajjah 850, after a reign of 43 years. His wife, Gauhar Shád Begum.

He had three sons. 1. Ulugh Beg Mírzá (*Malik i sa'id*), the Astronomer (*Qáhib i Zíj*); 2. Báyasanghar; and 3. Mírzá Ibráhím. Ulugh Bég's sons are Mírzá 'Abdulla'tif and 'Abdul'azíz Mírzá. Báyasanghar's sons are Mírzá Abul Qásim (who had a son Sháh Mahmúd), Mírzá Sultán Muhammad (who had a son Yádgár Muhammad Mírzá), and 'Aláuddaulah (who had a son Mírzá Ibráhím). Mírzá Ibráhím's (3) son is 'Abdullah.

III. Sulta'n Muhammad Mírza'.

(Sixth son of II, and grandson of Tímúr.)

He governed Samarqand, and died during the reign of Sháhrukh (d.). He had two sons—

1. Sulta'n Abu' Sa'id Mírza'.
2. Minúchihr Mírzá.

(IV. Sulta'n Abu' Sa'id Mírza'.)

Born in 830. Commenced to reign when twenty-five years old, and reigned 18 years (over Afghanistan, and Independent Tartary). Killed on the 25th Rajab 873 by Yádgár Muhammad Mírzá, son of Sultán Muhammad Mírzá, son of Báyasanghar Mírzá, son of Sháhrukh Mírzá.

The Akbarnámah (Lithogr. Edition) mentions the names of ten sons—

- | | |
|---------------------------|-------------------------|
| 1. Sultán Ahmad Mírzá. | 6. Sultán Walad Mírzá. |
| 2. Sultán Muhammad Mírzá. | 7. Ulugh Beg Mírzá. |
| 3. Sultán Mahmúd Mírzá. | 8. Abá Bakr Mírzá. |
| 4. 'Umar Shaikh Mírza'. | 9. Sultán Khalíl Mírzá. |
| 5. Sultán Murád Mírzá. | 10. Sháhrukh Mírzá. |

In other histories I have found the names as follows :—

- | | |
|--------------------|----------------------------------|
| 1. Ahmad Mirzá. | 6. Ulugh Beg Mirzá (ruler of |
| 2. Mahmúd Mirzá. | Kábul). |
| 3. Khalíl Mirzá. | 7. Abú Bakr Mirzá. |
| 4. Muhammad Mirzá. | 8. Murád Mirzá. |
| 5. Sháhrukh Mirzá. | 9. 'Umar Mirzá. |
| | 10. Sultán Mirzá (<i>sic.</i>) |

Sultán Mahmúd Mirzá (2) had three sons :—1. Báyasanghar Mirzá; 2. 'Alí Mirzá; 3. Khán Mirzá. The last, Khán Mirzá, had a son Mirzá Sulaimán who, with his son Mirzá Ibráhim, lived at Akbar's Court.

Ulugh Beg Mirzá (6) had a son 'Abdurrazzáq.

V. 'Umar Shaikh Mirzá'.

(4th son of Abú Sa'id Mirzá.)

Born at Samargand in 860, A. H. Died Monday, 4th Ramazán 899, at Akhsíkat in Farghánah,* the pigeon house on which he stood flying pigeons having broken down. He had three sons and five daughters—

(1.) Zahi'ruddín Ba'bar.

(2.) Jahángir Mirzá.

(3.) Náçir Mirzá (called in some histories, *Mirzá Yádgar† Náçir*).

a. Khánzádah Begum, Báber's own sister, five years older than he.

c. ———, died shortly after birth.

d. Kár Sultán Begum.

b. MihrBánú Begum, sister of (3), eight years younger than Bábar.

e. Raziah Sultán Begum.

Mother of *Bábar* and of (a), Qatlaq Nigár Khánúm [or, Mihr Nigár Khánúm, according to *Kháfi Khán*]; mother of (2), Fátimah Sultán Begum; mother of (3) and (b), Ghunchají Ummed Begum; mother

* "Farghánah belongs to the fifth *Iqlím*, and is bounded on the E. by Káshghar, on the W. by Samargand, on the S. by the mountains of Badakhshán. There are no mountains on the West. The *Saihún*, or *Ab i Khujand*, comes from N. E., flows towards West, passes N. of *Khujand*, and S. of *Finákit* (or *Saihún*), and then flows northwards towards Turkistán, near the confines of it it loses itself in the sand. In Farghánah are seven districts, five South of *Saihún*, two North of it. In the South are Andaján, Os, Marghinán, Asfarah, Khujand; in the North are Akhsí (Akhsíkat) and Kúsán." *Akbar-námah*.

† Spelt in Prinsep's *Tables Jádidihiar*.

of (c), Khwájah Husain's daughter; mother of (d), Aghá Sultán Ghunchají Begum; mother of (e), Makhdúmah Sultán Begum (also called *Qarúkoz Begum*). Nos. (d) and (e) are posthumous.

VI. Zahir'ruddi'n Muhammad Ba'bar.

(1st son of 'Umar Shaikh Mírzá.)

Title, *Getísitání* (conqueror of the world); title after death, *Firdausmakání* (dwelling in Paradise). Born on the 6th Muharram, 888.*

His mother Qatlaq Nigár Khánum is the second daughter of Yúnas Khán, who is the twelfth descendant from Changiz Khán.

The name Zahir'ruddín Muhammad was given to Bábar by the famous saint Nágiruddín Khwájah Ahrár.

Julús, Tuesday, 5th Ramazán, 899, at Andaján, when 11 years, 7 months, 29 days old. Reigned 11 years in Máwaránnahr, fighting with the Uzbaks and the Chagátai kings; reigned afterwards 21 years, 2 months, 3 days† in Afghánistán and Badakhshán, and invaded Hindústán five times. The last and successful attempt ended with the battle of Pánípat, Friday, 8th Rajab, 932. Died at the Chárbágh, near Ágrah, 6th Jumáda I, 937, at the age of 49 y., 4 m., 1 d. He was buried at Kábul. He reigned altogether 37 y., 8 m., 2 d.; viz., out of Hindustán, 32 y., 10 m., 3 d., [10 y., 4 m., in Máwaránnahr, and 22 y., 6 m., 3 d., in Kábul, &c.]; and in Hindústán and Kábul, 4 y., 9 m., 26 d.

Bábar had four sons and three (†) daughters—

1. Nací'ruddi'n Muhammad Huma'yu'n.
2. Kámran Mírzá. "He was married to Chúchak† Begum, daughter of Husain Arghún of Sind." *Ersleine*. A son of his is mentioned, Mírzá Abul Qásim.
3. 'Askari Mírzá.
4. Hindál Mírzá. He had a daughter Raqiyah Sultán Begum, who was married to Akbar.

* شش محرم is also the *Tárikh* of his birth.

† *Pádúsháhn.*, I, p. 47 m.; but on p. 62, l. 3, from below, 'Abdul Hamíd gives 22 y., 6 m., 3 d. The difference appears to lie in the fact that Bábar's rule in Máwaránnahr was nominal.

‡ Or rather *Jújak*.

(a.) *Gulrang Begum*; (b.) *Gulchikrah Begum*; (c.) *Gulbadan Begum*. These three were by the same mother. One of them was married to Mírzá Yádgār, who was put to death for treason. Stewart says that Dildār Begum was the mother of No. 4.

The *Tuzuk* (p. 113) and the *Iqbálnámah* (p. 68) mention a fourth daughter of Bábar, Gulrukh Begum, who was married to Mírzá Núruddín Muhammad; her daughter Salímah Sulṭán Begum will be mentioned among Akbar's wives.

VII. Naci'ruddín Muhammad Huma'yún.

Title after death, *Jannat áshy'íní* (in some MSS. *jannatústání*). Born, Monday night, 4th Zí Qa'dah 913,* at Ark in Kábul. His mother was Máhum Begum, a relation of Sulṭán Husain Mírzá. *Julús*, 9th Jumáda I, 937, at Agrah. Leaves India after the battle of Kanauj (10th Muharram 947), remains in exile 5 y., 5 m., 15 d.; takes Qandahár, on the 25th Jumáda II, 952; takes Kábul, on Tuesday night, 12th Ramazán 952; takes Badakhshán in the beginning of 953; invades Hindústán from Kábul, in the middle of Zí Hajjah 961; arrives at Láhor on the 2nd Rabí' II, 962, and at Sarhind, on the 7th Rajab 962; defeats Ahmad (Sikandar Súr) on the 2nd Sha'bán 962; and takes possession of Dihlí, on Sunday, 4th Ramazán, 962. He died in Rabí' I, 963, from a fall from the staircase leading to the roof of his library. Kháfí Khán (p. 124), says he fell on the 5th Rabí' I; Farishtah and Badáoní (I, p. 465) say, he fell on the 7th. According to Kháfí Khán, Farishtah, and Stewart (p. 120), Humáyún died on the 11th Rabí' I; according to Badáoní, on the 15th; according to the Pádisháhnámah (p. 65), on Sunday the 13th; according to the Mir-át, on the 7th; and according to the Akbarnámah 'on the Friday of Rabí' I.'

Kháfí Khán (I, p. 126), represents Humáyún as a Hanafí Sunní; but he says that he possessed a greater love for the *ahl i bait* (Hasan, Husain, &c.) than his ancestors, especially more than Amír Tímúr.† Regarding Humáyún's religion, *vide* Farishtah and Badáoní. Humáyún's soldiers and many of his grandees (as Bairám Khán, &c.) were Shí'ahs.

* So in the Akbarnámah, and, according to Stewart, in Bábar's Memoirs. The *Pádisháhnámah* (I, p. 63, l. 7), has the 14th, not the 4th.

† Sunnis with slight Shí'ah tendencies are called *تفضیلیه* *tufziliyah*. That Tímúr was no Shí'ah is clear from the name which he gave his second son (*Umar*).

According to the *Pádisháhnámah*, Humáyún, at the time of his accession, was 23 y., 6 m., 5 d., old. The period from his *julús* to his death is 25 (lunar) y., 10 m.,* 5 d., hence at his death, he was 42 y., 4 m., 10 d. old.

Of his wives the following are mentioned :—

1. *Hamidah Báuú Begum*, Akbar's mother. Her title is *Maryam Makíní*, 'holding the rank of the Virgin Mary.' She died 18th Shahríwar 1012, and was buried at the side of Humáyún at Dihlí. 2. *Máh Jájak (Chúchak) Begum*, mother of Mírzá Muhammad Hakim and Sultán Ibráhím. Badáoni and the *Akbarnámah* (II, 69), also mention a *Hájí Begum*; but this may be the title of the preceding.

Humáyún's sons :—1. Akbar.

2. Mírza Muhammad Hakim, born in 961.† Died of *delirium tremens (ra'shak)*, 12th Sha'bán 993, (Bad. II, 346).

3. Sultán Ibráhím, who died as an infant.

Of Humáyún's daughters I find mentioned—(a.) Najíbunnisá Begum (*Tuzuk*, p. 68, and Preface, p. 5); and (b.) Bakhtunnisá Begum (*Khúfí Khún*, p. 226). A son of the former, Mírzá Wáli, was at Jahángír's Court (*Tuzuk*, p. 68).

VIII. Jalal'uddín Muhammad Akbar.

Title after death, 'Arsháshyání. Born in the night from Saturday to Sunday, 5th Rajab 949, at Amarkot. *Julús*, about noon on Friday, 2nd‡ Rabi' II, 963, at Kalánúr, near Láhor, when Akbar had reached the age of 13 (solar) y., 4 m., 18 d.; or 13 (lunar) y., 8 m., 28 d. He died in the night between Tuesday and Wednesday, 12th Jumáda II, 1014, at the age of 63 (solar) y., 1 d., or 64 (lunar) y., 11 m., 7 d. Regarding the confusion as to the exact day of Akbar's death, *vide* my *Kín* translation, p. 212, note 2. He had reigned 49 (solar) y., 7 m., 13 d., or 51 (lunar) y., 2 m., 9 d.

Akbar had five sons—

1. Hasan } twins, born 3rd Rabi' 972. They only lived
2. Husain } one month.
3. Salim [Jahángír].

* The Edition of the *Pádisháhnámah* has wrong دو for ۵.

† His kunyah أبوالمفاخر *Abul Mafákhír*, or أبوالمضائل *Abul Fazáíl* gives the *Tárikh* (961); *vide* also Bad. II, p. 56.

‡ Stewart, p. 121, says, 3rd Rabi' II.

4. Sultán Murád.

5. Sultán Dányál.

Of daughters, I find three mentioned—(a.) Sháhzádah Khánum, born three months after Salím, in 977. (b.) Shukrunnisá Begum; and (c.) Arám Bánú Begum, both born after Sultán Dányál.

Of Akbar's wives the following are mentioned :—1. Sultán Raqi-yah Begum, (a daughter of Mírzá Hindál,) who died 84 years old, on the 7th Jumáda I, 1035, (*Tuzuk*, p. 401). She was Akbar's first wife (*zan i kalán*), but had no child. She tended Sháhjahán. Núr Jahán (Jahángír's wife) also stayed with her after the murder of Sher Afkan. 2. Sultán Salímah Begum. She was the daughter of Gulrukh Begum (*vide* above, under Bábar, p. 213) and Mírzá Núruddín Muhammad. Humáyún had destined her for Bairám Khán, who married her in the beginning of Akbar's reign. After the death of Bairám, Akbar, in 968, married her. She died 10th Zí Qa'dah, 1021. As a poetess, she is known under the name *Makhfi* (concealed), and must not be confounded with Zebunnisá* (a wife of Aurangzeb's), who has the same poetical name. 3. The daughter of Rájah Bihárá Mal and sister of Rájah Bhagawán Dás; Akbar married her in 968, at Sámbar. 4. The beautiful wife of 'Abdulwási,' married in 970, (Bad. II, 61). 5. Jodh Báí, the mother of Jahángír. Her name is not mentioned by any Muhammadan historian.† 6. Bibí Daulat Shád, mother of (b.) and (c.); *vide* *Tuzuk*, p. 16.

Sultán Murád, Akbar's fourth son, was born on Thursday, 3rd Muharram 978, and died of *delirium tremens* in 1006, at Jalnápúr in Barár (*Tuzuk*, p. 15; Akbarnámah II, p. 443; Kháfi Khán, p. 212). He was nicknamed *Pahárá* (Bad. II, 378). He was *sabzrang* (of livid complexion), thin and tall (*Tuzuk*). A daughter of his was married to Prince Parwíz, Jahángír's son (*Tuzuk*, p. 38).

Sultán Dányál was born on the 10th Jumáda I, 979, and died of *delirium tremens*, A. H. 1013. Kháfi Khán (I, p. 232), says the news of his death reached Akbar in the beginning of 1014. He married, towards the end of 1006, Jánán Begum, a daughter of Mírzá 'Abdurrahím Khán Khánán (Kháfi Khán, p. 213). He was also betrothed to a daughter of Ibráhím 'Adilsháh of Bijápúr; but he died before the

* Her charming *Díwán* was lithographed at Lucknow, A. H. 1284.

† Regarding her, *vide* Tod's *Rajasthan*.

marriage was consummated. He had three sons :—1. Tahmúras, who was married to Sultán Bahár Begum, a daughter of Jahángír. 2. Báyasanghar (*بايسانغر). 3. Hoshang, who was married to Hoshmand Bánú Begum, a daughter of Khusrau. Besides, he had four daughters whose names are not mentioned. Regarding the fate of Dányál's children, *vide* below p. 218. Dányál is represented as well built, good looking, fond of horses and elephants, and clever in composing Hindústání poems.

IX. Nu'ruddi'n Muhammad Jaha'ngi'r.

Title after death, *Jannatmakání*. Born at Fathpúr Sikrí on Wednesday, 17th Rabí' I, 977, or the 18th Shahríwar of the 14th year of Akbar's Era.

Julús, † 20th Jumáda II, 1014, (or 10th Abán of the 50th year of Akbar's Era), when he was 36 (solar) *y.* 1 *m.*, 23 *d.*, old, or 37 (lunar) *y.*, 3 *m.*, 3 *d.* He reigned 22 (solar) *y.*, 6 *d.*, or 22 (lunar) *y.*, 8 *m.*, 9 *d.* He died of ضيق النفس ‡ on Sunday, 28th Çafar 1037, at the age of 58 (solar) *y.*, 1 *m.*, 29 *d.*, or 59 (lunar) *y.*, 11 *m.*, 12 *d.*

Jahángír's wives (*Tuzuk*, p. 8, and Preface, p. 6). 1. A daughter of Rájah Bhagawán Dás, married in 993. She gave birth in 994 to Sultánunnisá Begum [*Kháfi Khán*, Sultán Begum], and, in 995, to Prince Khusrau. She poisoned herself with opium in a fit of madness apparently brought on by the behaviour of Khusrau and her younger brother Madhú Singh, in 1011, (*Kháfi Khán*, p. 227). 2. A daughter of Odai Singh [*Mot'h Rájah*], son of Rájah Máldeo, married in 994. The *Tuzuk* (p. 3) calls her Jagat Gosáyíní. She is the mother of Sháhjahán. 3. A daughter of Khwájah Hasan, the uncle of Zain Khán Kokah. She is the mother of Prince Parwíz. She died 15th Tír, 1007. 4. A daughter of Rájah Keshú Dás of Rát'hor. She is the mother of Bahár Bánú Begum (born on the 23rd Shahriwar 998). 5. and 6. The mothers of Jahándár and Shahryár. Their names are not known to me. 7. A daughter of 'Alí Rái, ruler of little Thibet (*Bad.* II, 376), married in 999. 7. A daughter of Jagat Singh, eldest son of Rájah Mán Singh, (*Tuzuk*, p. 68). 8. Mhrrunnisá Khánum, the wife of Sher Afkan. On her marriage

* His name is wrongly spelt in the *Tuzuk* and *Pádisháhnámah* (I, p. 73). The name occurs in verses and has the *wazn* of فاعلانى.

† Regarding differences in date, *vide* my *Áin* translation, p. 212, note 2.

‡ Jahángír was stout; *vide* my *Áin* translation, p. 267, note.

with Jahángír she received the title of Núr Mahall,* and was later called Núr Jahán. (Tuz. p. 156).

Jahángír's children. 1. Sultán Khusrau. 2. Sultán Parwíz.† 3. Sultán Khurram (Sháhjahán). 4. Sultán Jahándár. 5. Sultán Shahryár. Two daughters are mentioned :—(a.) Sultán Nisár Begum; (b.) Sultán Bahár Bánú Begum.

Sultán Khusrau was born on the 24th Amurdád 995, (*Tuzuk*, Preface); but Kháfí Khán says 997. He was married to a daughter of A'zam Khán Kokah, and to a daughter of Muzaffar Husain (*Tuzuk*, p. 76). His sons—1. Baland Akhtar, who died when young, (*Tuzuk*, p. 78.) 2. Dáwar Bakhsh [Buláqí], (*vide* below). His daughter, Hoshmand Bánú Begum, was married to Hoshang, son of Dányál. 3. Garshasp, (*Gushtasp*, according to the *Khuláqatuttawárikh*). Khusrau died on the 18th Isfandiýármuz, 1031.

Sultán Parwíz, born 19th Abán 997; died of *delirium tremens* on the 7th Qafar, 1036. He had a son who died when young. A daughter of Parwíz was married to Dará Shikoh.

Sultán Jahándár had no children. He and Sultán Shahryár were born at about the same time, a few months before Akbar's death (*Tuz. Preface*, p. 17). Shahryár was married in the 16th year of Jahángír, to the daughter of Núr Jahán by Sher Afkan, by whom he had a daughter, Arzání Begum (*Tuzuk*, p. 370). From his want of abilities, he got the nickname *Náshudaní* (fit for nothing). Khusrau, Parwíz, and Jahándár died before their father.

The history of the fate of Shahryár, Dáwar Bakhsh, and the sons of Dányál, belongs to the most confused portions of Indian History.

The *Pádisháhnámah* (I, pp. 73 to 80) says that, when Shahryár proclaimed himself emperor at Láhor, Báyasanghar, Dányál's second son, fled to him, and was appointed *Sultán Sipahsálar* of the army with which Shahryár wished to oppose A'raf Khán, who was marching against him. A'raf Khán's object was to support Sháhjahán, at that time engaged in the Dak'hín. But in order better to oppose Shahryár, A'raf Khán had proclaimed Dáwar Bakhsh (also called بلاقي) emperor. The other sons of Dányál, Tuhmúras and Hoshang, were in A'raf's army. On the mere approach of the troops of the enemy, Shahryár's

* For *Núr i Mahall* and *Núr i Jahán*, the *Izáfat* being left out in titles. So in *cháhibqirán*.

† There were 'several children' after Parwíz, that died. *Tuzuk*, p. 8.

soldiers ran away without firing a single shot, and Shahryár himself, together with his wife, was captured the next day and blinded by Aḡaf Khán. The Pádisháhnámah says nothing about the fate of Báyasanghar.

Sháhjahán, on receiving the news of the success of the dangerous game which Aḡaf Khán had played, was overjoyed, and sent him an order to kill Shahryár, Buláqí, Buláqí's brother (Garshasp), Tahmúras, and Hoshang. These five were killed by Aḡaf Khán in the night from Tuesday to Wednesday, the 25th Jumáda I, 1037.

The account given in the *Tuzuk* (p. 421), is essentially the same. The author, however, says that there was *one* charge made on Báyasanghar's army, and that Shahryár was next day taken in chains before Dáwar Bakhsh, and was blinded two days later. On the third day Tahmúras and Hoshang were imprisoned [*quare*, by Dáwar]. The fate of Báyasanghar is likewise passed over in silence. The order of Sháhjahán specifies Dáwar Bakhsh, his brother Garshasp, Shahryár, Tahmúras, and Hoshang, to be killed.

Kháfi Khán's account as printed in the edition of *Bibl. Indica* (I, p. 390 to 394), is confused. He says, "the son (*sic*) of Dányál was with Shahryár" (p. 390, l. 9). There was some fighting, and Shahryár was next morning taken before Dáwar Bakhsh and blinded, and "the sons of Dányál were dealt with as Shahryár had been treated, and were made his companions." Sháhjahán's order only specifies 'Shahryár and the sons of Dányál' to be killed, which order Aḡaf Khán carried out. Kháfi Khán says nothing about Dáwar Bakhsh.

Elphinstone's account (p. 575) differs, in a few items, from that of the preceding three historians, though I do not know what sources he used for this portion of his history. He says that Shahryár *formed a coalition* with the *two* sons of his uncle Dányál [Tahmúras and Hoshang], and that there was a battle *which ended in a defeat*. Shahryár, he says, and the sons of Dányál, were afterwards put to death by order of Sháh Jahán.

In a footnote, Elphinstone says that Dáwar Shukoh [*Quare*, Dáwar Bakhsh] escaped to Persia, where he was seen by the Holstein ambassadors [in A. H. 1042].

The author of the *Khaláqatuttawárikh* follows the *Tuzuk*, and says that Dáwar Bakhsh, his brother Gushtásp (*sic*), Shahryár, Tahmúras, and Hoshang, were killed by order of Sháhjahán.

X. Shiha'buddi'n Muhammad Sha'hjaha'n.

Title, *Qāhibqirān i sání*. Title after death, *Firdaus Ashyānī*. Born at Lāhor, 30th Rabí' I, 1000 A. H.* Historians make much of the time of his birth (end of the Millennium), and his first acts on his accession justified people to look upon him as the *mujaddid i dīn i mubín*, the restorer of Islām.† *Julús*, 8th Jumáda II, 1037.‡ He had eight sons and six daughters:—(1.) Sultán Muhammad Dará Shikoh, born at Ajmír, Monday night, 29th Çafar 1024. (2.) Muhammad Sháh Shujá' Bahádur, born at Ajmír, Saturday night, 18th Jumáda II, 1025. (3.) Muhammad Aurangzeb, born on Saturday night, 15th Zí Qa'dah, 1027. (4.) Ummed Bakhsh, born near Sarhind, Wednesday, 11th Muharram, 1029. He died at Burhánpúr, in Rabí' II, 1031. (5.) A son who died before he had received a name, born 1032. (6.) Murád Bakhsh, born at Rahtás, Tuesday night, 25th Zí Hajjah, 1033. (7.) Lutfullah, born Tuesday night, 14th Çafar, 1036. Died 9th Ramazán, 1037. (8.) Daulatafzá, born Tuesday night, 4th Ramazán, 1037. Died 20th Ramazán, 1038. (a.) Húrunnisá Begum, born at Aghrah on Wednesday, 8th Çafar, 1022. Died at Ajmír, 4th Rabí' II, 1025. (b.) Jahán Ará Begum, who had the title of Mustafáb Begum, born Wednesday, 21st Çafar, 1023. (c.) Raushan Rái Begum, born at Burhánpúr, 2nd Ramazán, 1026. (d.) Surayyá Bánú Begum, died in the night before 20th Rajab, 1030; died on the 23rd Sha'bán, 1037. (e.) A daughter, born 10th Ramazán 1039; she died soon after birth. (f.) Gauhar Ará Begum, born at Burhánpúr, Tuesday night 17th, Zí Qa'dah, 1040.

The concluding dates of the reigns of Sháhjahán and his Descendants, will form the subject of the next paper.—

The President then exhibited three maps of the Sundarban.

The President said—It will be in the recollection of the members that some months since, an interesting paper on the Sundarban had been laid before them by Mr. Rainey, and that in the discussion which followed the reading of that paper, the Rev. Mr. Long had stated that he had during a visit to the Imperial Library in Paris, seen there a very old Portuguese map of the tract in question. Mr. Rainey was struck with the interest attaching to such old records,

* The Tuzuk says 999. † Vide Proceedings for July, p. 192. ‡ Kháfí Khán has 7th Jumáda II.

and wrote to Paris soliciting a copy of that portion of the map, which related to the Sundarban. He has this day sent me a note which I will take the liberty of reading to you, accompanied by the three small tracings which I lay before you. Mr. Rainey says—

“Agreeably to promise, I have much pleasure in forwarding herewith the tracings of the three ancient maps of the Gangetic Delta (Sundarban), which M. Cartamberd, the head of the Geographical Department of the *Bibliothèque Imperiale*, Paris, was good enough to send out to me.

You may recollect that in the course of the discussion on my paper on the Sundarban, (*vide* the Society's Proceedings of December last), the Rev. Mr. Long, made an allusion to a very old Portuguese map of the existing Sundarban tract, which (the late lamented) M. Jomard had shown to him, many years ago in Paris; and, thinking that a copy of it would prove very interesting and useful, I accordingly applied to him for it. But that venerable French *savant* having died, his successor, M. Cartamberd, kindly favoured me with the tracings of the three maps I now transmit to you, and which I have numbered as 1, 2 and 3, respectively.

The first of them is said to be a map of the 16th century, and on a reference to *Barros' Da Asia* in the Society's Library, I find it to be an exact tracing of a part of the map there given to illustrate the 4th Decada thereof.

The second is stated to be taken from the chart of the kingdom of the Great Mogul by N. Sauson, and is dated so far back as 1652. This map like the other two, has no scale affixed to it, which *desideratum* naturally causes much confusion.

The third and last is set down therein as taken from the new map of the kingdom of Bengal by order of the noble Sire Matthews Van den Broucke in the Atlas of Francor's Valentia to illustrate his work entitled 'Old and New East India,' 1724. This appears to be the most explicit and lucid of them all; it clearly indicates the five towns, *viz.* :—Pacuculi, Ciupitanaz, Noldy, Tipuria, and Dapara, the last of which is evidently the *only* place that can be recognized in the Revenue Survey Map of Colonel Gastrel's. From the similarity of position and name, it is evidently identical with the Daspara of the present day, formerly (doubtless) a flourishing seaport town, but *now* an insignificant inland village.

From all the maps it is very abundantly clear that the Gangetic Delta (Sundarban) did not in days of yore extend near so far south as it does at present. Between the existing two large rivers, to the east and west thereof, the accretion of land has increased immensely. This would incontestably establish that the sites of the five seaport cities before alluded to, are now very far in the interior, and, from the very great changes in the course of the larger streams, the remains of some of them may have been, perhaps, altogether washed away, whilst others may still lie concealed in the very heart of the forest and inaccessible.

I shall refrain from offering any further remarks at present; but, in concluding, would venture to suggest to the Council of the Society the desirability of publishing the maps, at least Nos. 2 and 3, in the Society's Journal, as thereby Non-resident Members will have a fair opportunity of referring to them."

Several members made remarks on the intrinsic value of the maps. The President thought, it would be of no use to publish the maps without some explanatory remarks; and he said, he was glad to state that the Rev. Mr. Long had promised to take the maps home with him, in order to lay them, together with some descriptive notes, at a future meeting before the members of the Society.

The meeting then broke up.

LIBRARY.

The following books have been added to the Library since the last Meeting.

. Names of Donors in Capitals.

Presentations.

Proceedings of the Royal Society, No. III.—ROYAL SOCIETY OF LONDON.

Proceedings of the Royal Geographical Society, Vol. XIII. No. 2.—THE ROYAL GEOGRAPHICAL SOCIETY OF LONDON.

Bulletin de la Société de Géographie. Mars, Avril et Mai, 1869.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Journal Asiatique, No. 49.—THE ASIATIC SOCIETY OF PARIS.

The Journal of the Chemical Society, March, 1869.—THE CHEMICAL SOCIETY OF LONDON.

The Transactions of the Bombay Geographical Society, Vol. XVIII.—THE BOMBAY GEOGRAPHICAL SOCIETY.

Notices et Extraits des Manuscrits de la Bibliothèque Impériale, Tome XXI. Première Partie.—THE IMPERIAL INSTITUTE OF FRANCE.

Mineral Statistics, Coal.—THE GEOLOGICAL SURVEY OF INDIA.

Ueber den Giftapparat der Schlangen, insbesondere über den der Gattung *Callophis* (Gray), von Adolf B. Meyer.—THE AUTHOR.

Official Correspondence relating to the System of Revenue Survey in the Bombay Presidency.—THE GOVERNMENT OF BOMBAY.

Annual Report on the Meteorological Observations registered in the Panjab by A. Neil, 1868.—THE GOVERNMENT OF THE PANJAB.

Purchase.

Comptes Rendus, Nos. 15 to 21, and Tables des Comptes Rendus des séances de L'Académie des Sciences, Deuxième Semestre. 1868, Tome LXVII.—Journal des Savans, Avril, 1869.—Revue Archéologique, Mai, 1869.—Revue Linguistique, Avril, 1869.—Revue et Magasin de Zoologie, No. 4, 1869.—Revue des Deux Mondes, 1. Mai, et 1. Juin, 1869.—The Annals and Magazine of Natural History for May and June, 1869.—The Ibis, Vol. V. No. 18.—The Numismatic Chronicle, part I. 1869.—The Calcutta Review, July, 1869.—Shappunji Edalji's Gujrāti Grammar.—Haug's Outlines of Zend Grammar.—Satyam Jayati's Ritu Sanhāra.—Ouvry's Meghaduta.—Wheeler's History of India, Vol. II.—Thomson's Treatise on Thermo-Dynamics.—Etymologische Forschungen von Professor Dr. A. F. Pott, 2 Vols.—Notley's Comparative Grammar of the French, Italian, Spanish, and Portuguese Languages.—Cowell's Prākṛita Prakāsa.—Owen's Comparative Anatomy of Invertebrate Animals.

Lindsay's History and Coinage of the Parthians.—Reise der österreichischen Fregatte Novara, Anthropologischer Theil.—Recherches sur la Faune de Madagascar et de ses dépendances, first part.—Böhtlingk and Roth's Sanskrit Wörterbuch, fasc. 36.—Annales Musei Botanici Lugduno-Batavi, edidit F. A. Gui-Miquel, Tome III. Fasc. VI. to X.—Simpson's India, Ancient and Modern, parts 5 and 6.—Tārīkh Badāon.—Tārīkh Farrukhābād.—Patwārī kī Kitāb.—Hālāt i Dehī.—Risālah i goi Chaugān.—Tārīkh i Rohilkand.—Reade's Landed Properties.—Risālah i 'Arūz.

Exchange.

The Athenæum for May, 1869.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL

FOR SEPTEMBER, 1869.

A meeting of the Society was held on Wednesday, the 1st instant, at 9 o'clock p. m.

T. Oldham, Esq., LL. D., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced —

1. From W. M. Smolly, Esq., specimens of Coral from the Andaman Islands.

2. From J. Avdall, Esq., a copy of *Chronique de Michel le Grand, Patriarche des Syriens Jacobites*. Translated from the Armenian into French, by Victor Langlois.

3. From M. L. Ferrar, Esq., C. S., three ancient Copper Coins dug up in Roy Barcilly.

The coins are Bactrian, and would appear to be known specimens. The locality is, however, noticeable, as such coins are generally found in the north-western districts of India.

4. From Babu Rakhai Das Haldar, Special Commissioner, Chota-Nagpur, the following Sanscrit MSS.—

Vatuka Bhairava Stava.

Rudra Chāndi Stotra.

Aditya Hridaya.

Adhyātma Rāmāyana.

Jyotishatatva, by Raghunandana Bhattāchārya.

Prasna Kaumundi.

Jātakāṅkāra.

Harināmāmṛita Vyākaraṇa.

Mahābhārata in Bengali verse, by Kasirāma Dāsa (incomplete).

Aniara Kosha.

Mahábhārata, Virát Parva.

Bhagavat Gitá, with commentary.

Válmiki Rámáyana.

Tarpana Vidhi.

Sri Krishna Kavachá.

Rádhiká Stotra.

A Sanscrit Grammar, incomplete.

Bhágavata Purana, with commentary.

The President said, he had much pleasure in proposing a special vote of thanks to Babu Rakhal Das Haldar for the valuable present he had made to the Society. He would not ask a formal seconding of this vote; but he believed he was justified in asking the meeting to support his motion by general consent.

The motion was carried by acclamation.

5. From N. S. Maskelyne, Esq., through Dr. J. Anderson, a copy of 'Report on Jewellery and Precious Stones,' and a copy of 'Notes on the Nature and Composition of the Murrhine Vases of the Ancients.'

6. From the Government Meteorological Reporter, a copy of 'Report of the Meteorological Reporter to the Government of Bengal for the year 1868-69, with a Meteorological Abstract for the year 1869.'

7. From Babu Gopinath Sen, a copy of the 'Facsimile of the indications given by the Anemometer at the Surveyor General's Office, Calcutta, on the 9th June, 1869.'

8. An English MS. Translation of the Táríkh Fíroz Sháhí, first part, by the late Major Fuller, through T. W. H. Tolbort, Esq., C. S., Dera Ismail Khán.

The President said he thought it proper to draw the attention of the meeting to this presentation. The MS., as it was, contained a good portion of the Táríkh i Fírúzzsháhí, the text of which had been edited by Sayyid Ahmad, C. S. I., for the *Bibl. Indica*. The translation itself had been commenced by the late Major Fuller, Director of Public Instruction, Panjab; and he was glad to announce to the meeting that Mr. Tolbort, whose excellent paper on the District of Lúdiáná would be in the recollection of the members, had declared himself ready to complete the English translation of this most important Historical work. He hoped that Mr. Tolbort would be inclined

to make over his translation, when completed, to the Philological Committee of the Society for publication in the *Bibliotheca Indica*. He felt convinced that it was of the utmost importance that the Society should themselves publish translations of their historical works, because it was desirable that such translations be made in India, where translators, much better than at home, could overcome the geographical and linguistic difficulties of the original texts. He was sure that as long as the public had no access to correct translations, the text editions of the *Bibliotheca Indica* would be, to a very large extent, but a treasure under lock and seal.

The following gentlemen duly proposed and seconded as the last meeting were ballotted for and elected Ordinary Members—

E. Hyde, Esq., Barrister at Law.

Major G. E. Fryer, British Burma.

J. Westland, Esq., C. S.

J. H. Fisher, Esq., C. S.

G. Latham, Esq., C. E.

Babu Juddulal Mullick.

The following gentlemen were named for ballot as Ordinary Members at the next meeting—

J. G. Delmerick, Esq., Assistant Commissioner, Rawul Pindee, proposed by Babu Rajendralala Mitra, seconded by the Secretary.

A. D. B. Gomes, Esq., Commissioner, Sunderbuns, proposed by the President, seconded by the Secretary.

B. Gray, Esq., M. B., Officiating Inspector General of Prisons, Panjab, Lahore, proposed by Colonel R. Maclagan, seconded by T. H. Thornton, Esq., C. S.

A. Thomson, Esq., Inspector of Schools, Fyzabad, proposed by Mr. H. Blochmann, seconded by the President.

A. Allerdyce, Esq., Serampore, proposed by J. T. Wheeler, Esq., seconded by H. Blochmann, Esq.

Babu Digambara Mitra, and N. S. Alexander, Esq., C. S., have intimated their desire to withdraw from the Society.

Major W. A. Ross's re-election, announced in February 1869, has been cancelled at his own request.

The Council reported that they had elected Mr. G. Nevill to serve in the Library Committee, that Colonel H. Hyde had been nomi-

nated to act as Treasurer to the Society during the temporary absence of Colonel J. E. Gastrell, and that on the recommendation of the Philological Committee, they had sanctioned the publication of Major T. E. Gordon's English translation of Umar i Khayyám in the Bibl. Indica.—

These nominations and sanction were confirmed.

The following papers were read—

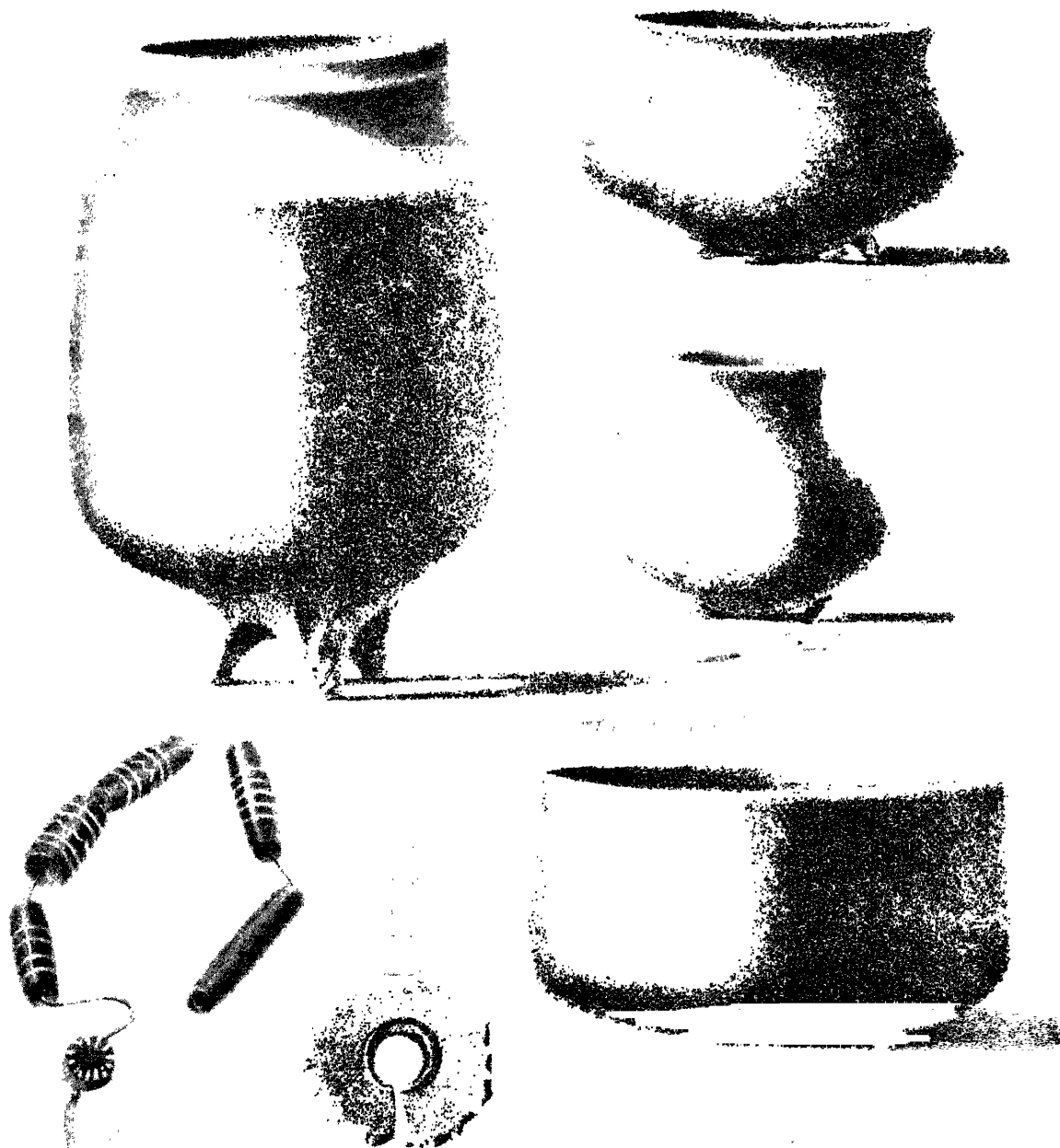
I.—*Notes on the remains found in a Cromlech at Coorg, which were exhibited at the last meeting, by T. OLDFHAM, ESQ., LL. D., President.*

At the last meeting of the Society (4th August) some fragments of earthenware were exhibited which had been found in a Cromlech, opened out by the order of the Chief Commissioner of Mysore, on the ✓ Moory Betta Hill, in North Coorg. Unfortunately, these interesting remains had been very insufficiently packed, and had been so broken up, in their transmission by the post, that nothing could be made out of the many small fragments. One little vessel alone had escaped fracture.

Along with these were some curious 'beads' and a singular metallic relic, the nature of which it was not easy to make out by lamp-light.

After the meeting, I took these remains, and by a little patience, I was enabled to see that the greater portion of the earthen vessels to which they belonged, still remained, though so much broken up, and that only small parts were wanting. And, with a little care, the vessels have been again built up from their fragments, so far at least, as to enable accurate and full-sized drawings to be made of all. These drawings, as well as the putting together of some of the vessels, are due to the care and skill of Mr. Schaumburgh. Plate V. shews all these relics of the *full size*.

The earthenware is of two distinct kinds. The larger vessel, which stands upon three short legs or supports, is of the ordinary baked clay, of the common reddish-brown colour, and in no respect, as regards material, differs from the common earthenware vessels of the country. It is coarsely made, and for its size is thick and heavy: evidently no care has been taken to produce anything better than the commonest earthenware. This is the only specimen among those



sent to the Society, which has been baked. The remaining three specimens, as shown on Plate V., are of black unbaked (sun-dried) clay. The two upper figures represent miniature copies of the ordinary *ghurra* or water-pot. The lower figure is of a not uncommon form also, an open deep saucer or dish, with straight sides, not contracted towards the mouth. The drawings are all of the full size of the originals, none of these vessels just described exceeding $1\frac{1}{2}$ inch in height. The baked clay vessel with the small tripod support, although very large as compared with the others, is only $4\frac{3}{4}$ inches high including the feet.

As to general form, I can see nothing in these earthenware vessels differing materially from those manufactured and in use at the present day. The larger vessel has, perhaps, somewhat straighter and less curved sides than commonly given. But this is too trivial a difference to attract much notice. None of the vessels have been glazed; nor is there, on any of them, ornamentation of even the simplest kind. A few irregular lines which appear to pass round the body of the vessels and which may be seen in the figures, are due to irregularities in the badly tempered material of which they are constructed, and evidently not to any design.

With these little earthen vessels, were sent, as found along with them, "several beads and tubes bored through, and evidently portions of necklaces. These are of the colour and description of agate, and have circles in white round, with a zigzag pattern in white in the centre." This is Capt. Cole's description. These beads or tubes, are long subfusiform pieces of common cornelian, ground down carefully on the surface into an elongated barrel shape, and bored through the centre in the direction of the long axis: this boring having obviously been intended to facilitate the stringing together of these bugles or beads. Among those sent up, one is plain, the remainder are all ornamented with white lines, four or five in number, which pass round the bugle forming thin circles of colour. The exterior of these lines, that is, the two nearest to the ends of the beads, are continuous plain fine white lines: but the centre of the five is, in most of the specimens, a sinuous or zigzag line. No other pattern occurs among those sent up. There is also a small circular table or disc of cornelian rudely ornamented on both faces, by short radiating

lines in white, which are placed round the edge of the circle, but which though rudely radiating from the centre do not extend to the centre. This small tabular piece of cornelian is also bored through on the flat, and would seem to have formed an appropriate finish or terminal for a necklace, or ornament composed of these beads.

The only other article sent up by Captain Cole, remaining to be noticed, is also figured on Plate V. This is a circular disc, measuring $1\frac{1}{8}$ inch across, and in thickness, a little less than $\frac{1}{2}$ of an inch. The outer edge of this disc has originally been scalloped, or indented, in a succession of slight equidistant curves, now a good deal broken or worn. The centre of the disc is pierced by a circular opening of $\frac{1}{4}$ inch in breadth, surrounded by a raised curved rim or border. From this centre opening, there also passes to the circumference of the disc, an open slit or cut about $\frac{1}{8}$ inch in width, the edges of which are not ornamented with a rim similar to that encompassing the centre space.

These are all the remains which have been kindly transmitted to us by Captain Cole through the Chief Commissioner of Mysore. All are figured in the accompanying Plate.

I have spoken as yet only of the external form of them. I would add a few words as to the materials and construction. As already noticed, there is nothing in the material or form of the earthen vessels to distinguish them from such as might be made and are made at the present day, very commonly. They are rude in manufacture, and give no evidence of any particular care either in the preparation of the material or the fashioning of the vessels. Indeed, what evidence they do afford, rather proves an absence of this care.

But the other remains indicate a very different degree of manufacturing skill. The beads or bugles, as I have called them, are all of hard stone: they have been carefully selected, ground down to a tolerably uniform length, and size, and shape, and have been carefully bored. These results, in themselves, indicate an amount of skill, in those who manufactured these beads, by no means contemptible. It is almost impossible to conceive a large number of beads of this kind, of a very hard material, reduced to symmetrical and cylindrical form, without the use of mechanical appliances, which, however rude they may have been, evidence an acquaintance with grindstones, and grinding

materials, which the earlier stages of man's knowledge did not possess. But in addition to the grinding and polishing and boring of these stones, they have been carefully and very skillfully ornamented. This has been produced by cutting or incising into the cornelian, the pattern which it was intended to produce, and by then inserting into these incised patterns a pigment or enamel. In all the specimens now before us, this pigment is white, but I have seen beads similar in general principles of construction in which this enamel was black or coloured. The small amount of this which we possess, has prevented our attempting any analysis of it, with a view to ascertaining, if practicable, what the material used consisted of. It appears to me to have been baked, or slightly burnt in. Although hard and durable, it was of inferior hardness to the stone, into which it was inserted, as is proved by the surface being almost invariably worn down below the ground surface, and in a few cases, it appears to have fallen out, after the completion of the ornament, or during its use.

I have seen, in the North West of India, beads of greatly more elaborate and finished design and beauty, constructed, generally, in exactly the same way as these now spoken of, but with more advanced skill in the manufacture. These are invariably supposed by their possessors to be not of local make, but are spoken of as *Solimani*, and as brought from other countries. My colleague, Mr. Theobald, had a fine series of these, and will, I hope, lay them before the Society.

The metallic disc, which I have noticed above, appears to offer a still more interesting subject of study. At first glance, the general mass of the material of which it is composed appeared to be earthy impregnated with copper. But the weight of the ornament was too great to admit of this idea, and I carefully sawed off a minute portion, when the fresh cut shewed that the core was copper. On testing this, it was found to be very nearly pure copper, the only other constituent present being earthy impurities. But on this copper core, there has been laid a thin plate of gold, which originally covered the whole surface. It is now gone along the broken edges of the little ornament, excepting just in the indented hollows of the small scolloping of the edge. And it is also seen to be worn off the raised rim round the centre hole, in part exposing underneath the upper core. On the flat surfaces of the face of the disc, the gold plating remains tolerably perfect, broken

up by small projecting or slightly raised portions of the decomposing copper which have forced their way through the porous and unequal plate of gold. This gold is of lightish hue, and probably contains silver, but not in any quantity, as the hardness shews. The quantity which could be obtained without greatly injuring the ornament, was far too small to ascertain the proportions.

The thin plate of gold, and the copper one on which it is laid are quite distinct, and can with a little care, be separated in small pieces. The question naturally arises how was this made? By what process was this thin plate of a precious metal, so ingeniously laid over the core of a cheap material, to produce so excellent an effect? The two are remarkably well joined, and the workmanship would do no discredit to an excellent jeweller of the present day. In modern practice, the solution of the question would be extremely simple. Such a plate or thin layer of gold would be thrown down by electric deposition, and then the whole burnished up. But we can scarcely suppose that the principles of electro-metallurgy were known to the constructors of these Cromlechs, and some simpler process must have been, I think, used. I believe myself that this process was nothing more than the attachment of the thin plate of actual gold by continued pressure and working it into the surface of the metallic copper beneath. The native metallurgists who to this day produce such a durable work in the inlaying of gold, &c., use no other means of attachment; the gold is simply applied and punched or pressed into the incised pattern, and subsequently burnished up. And in the present case, I believe, no other means were adopted, but that the gold, in all probability in the state in which it was obtained, was simply applied to the surface of the copper core, and forcibly pressed into contact with it, and actually into it. The softness of the copper, and the irregularity of it, resulting from the admixture of little impurities, would admit of quite a sufficient intermixture of the surfaces of the two metals to cause very complete adhesion. I am the more disposed to think this was the process adopted, by seeing, that there has been a failure to produce an even, good surface, precisely at those points where this pressure or force could be least conveniently applied. For instance, on the surface of the narrow cut or slit passing from the centre to edge of the disc, and on the raised curved surface of the edge

itself. From all these the gold has nearly disappeared, while in the little hollow, between these scollopings, where pressure could be easily applied, and therefore adhesion more perfectly secured, it remains.

The total weight of this disc in its present state is 170.25 grains, sp. gr. of mass 8.11.

Whatever the process adopted, the result is excellent and abundant proof that the makers of this little ornament, the manufacturers of this early specimen of imitation jewellery, had advanced far beyond the earlier stages of the metallurgic arts.

But who were the makers? Were they also the people who constructed these rude cairns, and circles of stones and kistvaens? Or were these ornaments obtained from some other people or race, with whom they maintained intercourse? There is nothing in the materials employed which would force us to adopt the latter view. Both copper and gold could have been obtained within short distances. For the one, the material could be obtained in a state ready for immediate use, while the reduction of copper from its ores is one of the simplest of metallurgic processes, and was known at a very early period. Agates and cornelian were procurable in any quantity at no great distance either. So that, as far as the materials used are concerned, there is no necessity to suppose that these ornaments were of other than local manufacture.

The very brief description given by Captain Cole of the Cromlechs in which these were found gives us very little information as to the mode of their occurrence. He merely says: 'The space within the concentric rows of stones was excavated, and earthen vessels of the exact pattern and description found elsewhere, were discovered, but *all in miniature*.' I presume from this, that these remains were all found beneath the natural level of the surface of the ground. But the former portion of the description throws a doubt on this, for it says "two of them (the Cromlechs) had upright slabs arched above, so as evidently to have formed an arched entrance within the enclosure." It would appear that this 'arched entrance within' (? into) 'the enclosure,' would seem to have been on the level of the ground. It is of some importance to know exactly how this was. For, if reference be made to the earlier examinations of very similar remains in the closely adjoining districts, we find that these earthen vessels, of

the same pattern, were all carefully placed in symmetrical order and position in a chamber purposely excavated below the surface. (See the valuable paper by Mr. Babington 'On the Pandoo Coolies in Malabar,' in the Trans. Literary Soc. Bombay, iii. 324). This is also interesting from the evident separation of the smaller earthen vessels from the larger. In one of these repositories of the ashes of the dead, Mr. Babington found a chamber covered over by a very large block of stone; the one represented was from 6 to 8 feet in diameter, and from 2 to 3 feet thick in the centre, thinning off to the edges where it was not more than 6 to 8 inches. This formed the capping to a regularly excavated chamber, the rock (laterite) being cut down so as to form a ledge or shelf all round: below this level again, the rock was excavated forming a semi-oval conical cavity in the centre of which was placed a huge earthenware pot or chatty. This was covered, precisely in the same way as was the centre chamber at the top, by a mushroom shaped stone. In this large chatty, were placed other small ones, in which were deposited beads, bones, &c. Smaller earthen vessels were also ranged on the shelf, or ledge of the rock, with some iron instruments, and other things.

The large central chatty or earthen vessel which Mr. Babington found, in the cave or chamber he opened, was more than five feet high, and four feet in diameter, while some of the smaller ones were quite as miniature as those now in the table. It is vastly to be regretted that having examined this in place, and extracted from it the beads, small vases, &c., Mr. Babington, simply to facilitate his further research, had it broken up and removed in pieces. It proved to have been only half baked, the centre being black and gritty. Indeed to bake an earthen pot of that size, equally and well, would be by no means an easy task even now.

I have alluded in some detail to these researches of Mr. Babington, because it is by no means clear that the ground 'excavated' by Captain Cole was in its original state, or that some such chamber had not originally existed and been crushed in. If in his researches, Mr. Babington had been content to excavate only as far as the ledge of rock, he would have found nothing, but small earthen vessels also, and he might have been led to suppose that they were *all* in miniature. My first impression on hearing this was that the depository of some

favourite child had been met with, and in it had been placed the ornaments and toys, with which the child had amused himself while alive. But I do not think there is any sufficient proof that this was so.

The general character of these depositories was found by Mr. Babington to vary according to the nature of the soil or rock on which they were constructed. Where the soil is of considerable depth, the large vessel of baked clay is generally found alone, and is the depository of the bones, beads, arms, &c., which are found in most of these sepulchres; but where there is little soil or the rock comes near the surface, then a chamber is found regularly excavated, as I have described.

And to this chamber, an entrance was secured by cutting regular steps proceeding by an incline at the side to a doorway or squared entrance, which was subsequently closed by placing against it another squared slab of stone, covering the space.

As proof of the fact that these Kull or Coolies of Malabar are of very much the same age (although I believe later) as the so-called Cromlechs of Coorg, I may mention that the beads found in the one are in size, shape, material, style and mode of ornamentation, identical with those obtained from the others.

Now we have then the following facts as bearing on the question of the age of these very remarkable works, (and here I will take all as being of one great age, though I believe there is sufficient to shew a very large degree of progress in the industrial arts, during the very lengthened period over which the construction of many hundreds of these remains must have extended): we have carefully shaped stones of large size, chipped down to rudely symmetrical form, shaped into arched figures, and formed into regularly dressed openings; we have chambers excavated in hard material into symmetrical form, an entrance to these chambers provided by regularly cut stairs or steps; we have earthenware of two kinds, some of the larger pieces being of sizes which required considerable skill to bake even partially; and in some of the apparently later forms, we have earthenware ornamented by the use of a glaze, and the application of distinct rude ornamentation, as well as the use of peculiar and difficult formed shapes. (See illustrations to Mr. Babington's papers referred to.) With these we find numerous remains of iron weapons and tools, swords of the ordinary so called

Roman form, spears, axes, cleavers, &c. No coin of any kind has as yet been found in these places; and until the present case, I am not aware of any metallic objects having been discovered, except those iron remains just noted. All these facts, and more especially the free use of iron tools, and the tolerably well preserved state in which these have been found, (seeing the rapid decomposition which iron exposed to damp and air undergoes) lead me to believe that we shall err greatly if we attribute to these remarkable stone rings and erections any very great antiquity. And I believe the evidence is sufficient to shew that the knowledge of the industrial arts among the people who constructed these depositories of the dead, was sufficiently advanced to justify the belief that they were themselves the fabricators of the curious relics found with their bones and ashes. I believe they *could* have made them, whether they did or not.

At the same time, it is by no means improbable that they were procured by barter or otherwise from other races, with which they held intercourse. Possibly the false or imitation character of the small metallic ornament might tend to confirm this belief, or it may have escaped solely on account of its counterfeit nature, and have been deposited with the ashes of its owner, merely because it was of no intrinsic value. It is by no means improbable, in my mind, that it and many others of similar character may have been imported by the earlier European traders, many of whose fleets visited the well known harbours of the Malabar coasts some centuries since.

I can offer no conjecture what this disc was intended for, or what the object of the slit may have been. It could scarcely have been intended to be used as a brooch, on the same principle as the now well known Tara brooch found, with other slit brooches, in Ireland, inasmuch as in the present case, the material is of equal thickness and size throughout, and there would have been nothing to prevent the pin from slipping off. It was to be used separately, and was not attached permanently to any other article, as there is no trace of such a point of attachment, and the coating of gold has been originally extended over the entire surface.

I have laid these few remarks before the Society, trusting that they may excite the attention of any who may have the opportunity of extending our acquaintance with the remains of the races inhabiting

this country, before it passed under European sway. The study of the mechanical and industrial history of these races, as evidenced by the few remains which have been preserved to us, is one full of interest, but is also one which can only be successfully prosecuted by means of the combined labours and contributions of many.

II.—*The Nineteenth Book of the Gestes of Prithirāj by Chand Bardai, entitled "The marriage with Padmāvatī," literally translated from the old Hindi by JOHN BEAMES, Esq., B. C. S. (Extract).**

I have selected this spirited poem as a first specimen of translation from the Prithirāja Rāsā, and it must be regarded solely as an essay in translation. Chand's language is archaic, his dialect is as much Panjābi as Hindi, dating from a time prior to the definite separation of the two languages, his poetic licenses are numerous and daring, the text of the sole manuscript I have yet had an opportunity of thoroughly studying is very corrupt, and I have no Pandit to help me. I rely chiefly on my own resources. I have, however, used with very valuable results, dictionaries of Panjābi, Sandhi, and Gujarāti, and a glossary of the Marwāri dialect. Still much remains uncertain and conjectural, and I am open to any criticisms, and ready to admit that I may have made mistakes where "*tantum difficile est non errare.*"

Book the Nineteenth.

Here begins the marriage with Padmāvatī.

Couplets (दोहा).

1. In the Eastern land there is a fort, lord of forts,
Samud Sikhar, hard of access;
There lives a victorious hero, lord of kings
Of Jādav race, strong-armed.
2. With retinue, horses, elephants, much land
And dignity of a Pādshāh (पातिशाह रे सर्जाद)
A mighty lord to all his servants,
With pomp and standards very splendid.

Poem (कवित्त).

3. With many standards very splendid, .

* The whole paper will be published in an early number of the Journal.

Song and music playing five times a day,*
 Mounting ten thousand horses
 With golden hoofs and jewelled trappings.

A lord of countless elephants,
 A valiant army thirty lakhs strong ;
 A sole ruler wielding Siva's bow,
 Holding the earth in his sway.
 Ten sons and daughters all told
 Chariots of beautiful colours, very many
 Storehouses, countless millions of wealth
 Had he, Padam Sen, the victorious prince.

4. Padam Sen, the virtuous prince,
 In his house was a well-born dame,
 From her breast a daughter sprung
 Beauteous as a digit of the moon.
5. Fair as a digit of the moon,
 Fairer than the whole sixteen digits ;
 In her childish guise she rivalled the moon
 When he has drunk the *amrit* juice.
 Like a lotus expanding through love of the moon-dew.
 She had stolen from the deer the glance of its eyes.
 She had [the beauty of] the diamond, the parrot, and the *bimb*.
 A pearl from head to foot, glittering like a serpent.

6. [This sixth stanza wants a line or two in my copy, and is hopelessly corrupt and unintelligible as it stands. I can make out allusions to the lotus, to Káma, the god of love, to her name Padmávatī, to her "swan-like gait," but nothing connected.]

7. She had all the auspicious marks [on her body],
 Well she knew the sixty-four arts, (कला)
 She knew the fourteen sciences, (विद्या)
 She was like the Spring among the six seasons.
8. Playing about with her companions
 In the gardens of the palace
 Her eyes lit upon a parrot,
 Then her mind was joyful.

* At his palace gate, as is the custom with Indian princes.

9. Her mind was very joyful
 Expanding like a lotus in the rays of the sun
 Her red lips thirstily opening,
 Likening the beauty of the parrot to the *bimb*-fruit.
She strove [to catch it] with eager eyes,
It resisted fluttering and struggling;
 Avoiding its beak, she seized it,
 Then she took it in her own hand.
 Rejoicing with joy, pleasure in her mind,
 Having taken it inside the palace
 In a beautiful cage, inlaid with jewels
 She was taking and placing it.
10. In it she was taking and placing it,
 Went to play, forgetting everything,
 Her mind slipped away from the parrot
 Roaming and plucking flowers.
11. The parrot seeing the beauty of the princess,
 This form from head to foot,
 This finished work of the Maker
 This peerless model of a woman —.

Poem (कवित्त).

12. Wavy tresses fair to see,
 Rivalling the dawn, with a voice like the *koil*
 Fragrant as the blowing lotus,
 Swan-like her gait, slow-paced.
 White-robed, her body shines,
 Her nails are drops of *Swāti* (pearls);
 The bee hums round her, forgetting his nature
 In the flavour and fragrance of the god of love.
 The parrot looked with his eyes, and was pleased.
 (Said) "This beautifully moulded form
 "My Lord *Prithirāj* shall obtain
 "Forestalling *Hara*, the joy of *Umā*."

III.—*On the Meenas, a wild tribe of Central India*, by LIEUTENANT-COLONEL C. L. SHOWERS.

(Extract.)

[Received, in part, 2nd September, 1867.]

In considering the present condition of the Aborigines of India and taking it as a test of the character of the rule under which they have subsisted for many generations back, the Government of India need not, I think, fear comparison with any other Government under which Aboriginal races have fallen, whether in other British Dependencies or in Foreign States. The existence of the several local corps scattered throughout India, composed of Aboriginal races of various denominations, Bheels, Meenas, &c., and the high state of discipline and fidelity to our Government which some of them have exhibited, testifies at once to the wisdom of the policy pursued by the late rulers of India and to the capacity of wild tribes, albeit heretofore hereditary robbers, for military training and for being reclaimed as true and loyal servants of the Government which knows how to deal with them.* Nor does the process of breaking in take long comparatively. Outram raised the first Bheel Corps, that of Candeish, in 1831. In a few years, the men, weaned from the habits of a life-time as professional plunderers, became, united as a Corps, the main instrument of order in the district. The Meywar Bheel Corps was raised by Col. Hunter in the year 1841. I saw the first recruits enrolled, naked savages with bows and arrows, fresh from their native hills, which then as yet rang with the shrill *khilkee*, or Bheel war-cry. In 1850, it fell to my duty as Officiating Political Agent to inspect the corps, when it went through a field-day equal to any native regiment of the line. Again, during the late Mutiny of the Native Army in 1857, this same Bheel corps exhibited remarkable fidelity, operating even against the Mutineer regulars with a total absence of sympathy with them.

While one race of Aborigines occupying the western district of the Meywar States were thus being reclaimed from their lawlessnesses and reduced to habits of order and usefulness to our Government, another

* Akbar appears to have been the only Muhammadan ruler that tried to win over *aboriginal* tribes by forming them into military Corps. How he succeeded may be seen from the *Asiatic Researches* (Translation, p. 252). —THE EDITOR.

race, the Meenas, inhabiting the North Eastern districts under the same political jurisdiction, were yet revelling in the excesses of their immemorial lawlessnesses. And as this is the race referred to in the title of this paper, I may mention, in explanation of the circumstances under which the Meenas fell particularly under my observation, that in the year 1854 the lawless excesses of the tribe emboldened by long impunity had reached to such a pitch of audacity, that they attacked and pillaged several walled towns in the British district of Ajmeer, carrying off not only the entire plunder to their hill fastnesses, but numbers of the inhabitants also, holding them to ransom. It fell to my duty then to take them in hand, and proceeding to Jehazpoor, the centre of the disturbed district in question, measures for its tranquillization and for reclaiming the race were there devised and set on foot as remaining in progress at the present day.

From time immemorial, Jehazpoor, in the State of Odeypoor, had been a notoriously disturbed district. A brief period of tranquillity was accorded to Jehazpoor during the early part of the present century by the appalling severity of the measures of the noted minister Zalim Sing, after Jehazpoor fell into the possession of Kotah in 1806. On a robbery being traced to a village, it was surrounded, all the men found in it at once decapitated, and the women compelled to carry the bleeding heads in baskets-full upon their own heads, and walk in procession through the neighbouring villages singing their usual jubilee songs. There are men still living, and I have conversed with them, who have witnessed these grim processions. To guard against the possible recurrence of such fatal surprises, the inhabitants of some of the Meena villages have distributed themselves in detached huts on the surrounding knolls, serving as a chain of watch towers for mutual security. However revolting the system referred to, it succeeded in effectually checking the excesses of the Meenas during the period that Jehazpoor remained in the possession of Kotah. A gold bangle might drop off a woman's ankle (so an ancient of those days illustrated the fact), and there it would lie till the drift sand covered it; for woe to the village to which the bangle might be traced. On the restitution of the district, however, to Meywar in 1819, it soon relapsed into its former disturbed condition. Jehazpoor was in truth a position well chosen for the lawless occupation of professional marauders, being a

strong hilly and jungly country where the boundaries of four foreign jurisdictions meet, *viz.* Meywar, Boondée, Jeypoor, and Ajmeer.

There are twelve tribes of Meenas in Central India, but the one under notice is called the Purihar tribe. These are descendants of the Purihars, who were the dominant race in Marwar, till dispossessed of their ancient capital (Mundore) by the Rhatores towards the close of the 14th century. Though defeated, the tribe would appear not to have succumbed to the new rule, as there are no descendants of them, I believe, to be found in Marwar at the present day, but emigrating they got possession, subsequently, it would appear, of Bagherah in the present Ajmeer Istimrarce and contiguous to some of their present haunts. This their genealogists represent to have been in the second generation from Nath Rao, the last Mundore Prince, with whom his dynasty perished. In a generation or two afterwards, they are found in the Chronicles lurking on the quadruple boundary above indicated, a race of outcasts without a common head, and such they have continued ever since, "their hand against every man and every man's hand against them," plundering in gaugs and joining any of the great marauding movements that have from time to time been organized under noted leaders. Thus, in 1847, some of the boldest of the outlawed Thakur Jawahir Singh's followers were these Meenas. The same indomitable spirit which carried the Purihars forth out of the land of their lost dominion seems to have maintained them in a state of wild independence throughout the long interval since; for though nominally owning allegiance to the States upon the verge of whose territories respectively it has suited their purposes to locate themselves in *fallahs* or gangs, to increase probably their chances of evading pursuit by enlisting in their favor the national jealousies of the Rajpoot States, yet fortified by traditions of former ascendancy, they have never really succumbed to any Power, but hanging together as one man, have always united to repel the frequent futile attempts that have been made from time to time by the rulers of States individually to coerce any of their Meena subjects, so called. The aggregate of male adults in the tribe is about 24,000; of this number about 10,000, distributed in 200 villages, are located along these border tracts.

Individually, the men are brave to desperation, athletic and hardy, many of them tall with fine countenances, denoting their superior origin. Similarly as the Purihar has no resemblance to the Aboriginal Bheel, Mair, Kole, or low caste Meena of the Aravulla, so he has nothing in common with these races, but their lawlessnesses. He will neither eat, smoke, nor intermarry with them, that is to say, the Purihar will not give a daughter in marriage, though he will take to his bed as many daughters of inferior tribes as he can support. Their pride of birth indeed is excessive, fostered by traditions ascending beyond the bounds of history to the region of myth, till they arrive at the celestial origin of the Purihars on the occasion of the creation of the four warrior races on the holy Mount Aboo. The genealogist of the tribe is the honored guest in every village he visits in his annual round. Each family engages his company for one entire day, which is occupied in recording in the ponderous MS. volume the recent additions to the family tree whether in the male or female branch; for even the ancestry of the women is duly recorded. It is easy to understand the effect of this cherished pride of birth in supporting their indomitable spirit. About half the tribe are armed with matchlocks of a superior manufacture, about half with the bow, and all with the kattar, or double-hilted dagger, which is a weapon they peculiarly affect. It is never detached from their person for a moment, waking or sleeping. Free from the ordinary prejudices of caste, the Purihars are great eaters of meat which their cattle-lifting raids furnish in profusion, and drinkers of spirits which serve to increase their natural ferocity. All are married, and many besides, take in keeping the widows of their deceased clansmen to the number of two or three each, or otherwise domicile women forcibly abducted in their raids. Thus the villages have become greatly over-populated as regards the possibility of finding support from the village lands. Collectively, the most noteworthy circumstance perhaps relating to the tribe, was their utter ignorance up to the day of my arrival among them of the true character of the British Government as the paramount power. If any other proof of this were needed than that then so recently afforded by their having deliberately marked out the prosperous British district of Ajmeer as the field of their repeated inroads, it would be found in the record of their systematic obstruction to the officers of our Govern-

ment in the prosecution of their duty when it happened to lead them to the vicinity of the Meena villages.

Their raids into the British provinces brought matters to a crisis, and it was necessary to put them down. But in contrast with the unfortunate contests with savage races which are going on at the present day in other parts of the world, it may not be unworthy of note that the tranquillization of Jehazpore was effected without a shot being fired.

LIBRARY.

The following additions have been made to the Library since the last meeting in August.

. Names of Donors in Capitals.

Presentations.

Proceedings of the Royal Society, Vol. XVII. No. 42.—THE ROYAL SOCIETY OF LONDON.

The Journal of the Chemical Society for April, May, and June, 1869.—THE CHEMICAL SOCIETY OF LONDON.

Proceedings of the Zoological Society of London, Part III. 1868.—THE ZOOLOGICAL SOCIETY OF LONDON.

Memoirs of the Manchester Literary and Philosophical Society, Vol. III., and Proceedings of the same, Vols. V, VI and VII.—THE MANCHESTER LITERARY PHILOSOPHICAL SOCIETY.

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Discoveries in Science by a Medical Philosopher, by Sir G. D. Gibb.—THE AUTHOR.

Report on Jewellery and Precious Stones. N. S. MASKELYNE, Esq.

Notes on the Murthine Vases of the Ancients.—THE SAME.

Chronique de Michel le Grand, par V. Langlois.—J. AVDALL, Esq.

Reports of the Meteorological Reporter to the Government of Bengal for 1868-69.—THE METEOROLOGICAL REPORTER.

Report on the Forest Administration in Oudh during 1867-68.—
THE GOVERNMENT OF INDIA.

Report on the Forest Administration in Mysore during 1867-68.—
THE SAME.

Selections from the Records of Government, North-West. Provinces,
Vol. V.—THE GOVERNMENT NORTH-WESTERN PROVINCES.

Purchase.

The Ferns of British India, Part XXII.—Max Müller's Rig Veda Text
and Pratisakhya, Part IV.—Hewitson's Exotic Butterflies, part 70.—
Journal des Savants, Mai, 1869.—Comptes Rendus, Nos. 22, 23, 24.—
Revue des Deux Mondes, 15th Juin, 1st Juli, 1869.—The Anthropo-
logical Review, No. 26.—Revue Archéologique, Juin, 1869.—The
Annals and Magazine of Natural History, No. 19.—Revue de Zoologie,
No. 5, 1869.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL

FOR OCTOBER, 1869.



A meeting of the Society was held on Wednesday, the 6th Instant, at 9 o'clock, P. M.

The Hon'ble J. P. Norman, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From Maulawí Agá Ahmad 'Alí, two copies of *Risálah i Tard-nah*, and two copies of *Shamsheer i Teztaar*.

2. From Major F. W. Stubbs, Umritsir, Two silver coins of Jahángír.

Mr. Blochmann said—

The two coins which Major Stubbs has presented to the Society, are rupees struck by Jahángír (1605 to 1627). The coins are well preserved and are of interest, because, as Major Stubbs observes in his letter which accompanied the donation, they have not been described by Marsden in his *Numismata Orientalia*. The inscription is

on Area I. ز نام شاه جهانگیر شاه اکبر نور

on Area II. همیشه بادا بر روی سکه لاهور

“Through the name of Sháh Jahángír, son of Sháh Akbar, light May always be on the face of the coinage of Láhor.”

i. e., May the lustre of the name of Sháh Jahángír, son of Akbar Sháh, for ever rest on the coinage of Láhor.

The second area also contains the year سنه ۱۰۹۹, the 19th year of his reign, or 1034 A. H. (A. D. 1623). (*Vide* Plate VII.)

The inscription of the two areas forms a verse in the metre *Mujtass*, each area containing one hemistich.*

3. From J. C. Leupolt, Esq., C. S., Some earthen Medallions bearing inscriptions and a bronze figure of Buddha.

Mr. Leupolt forwarded the following Memo. :—

"Whilst in charge of Sub-Division Kasia in Gorák'hpúr District, I had the supervision of the excavations made on the part of Government at the Buddhist remains situated in and about Kasia village. It was only during the months of May and June and a part of July last, that I was able to carry on the work. A description of the ruins and remains, &c., can be found in General Cunningham's Report of the Archeological Survey for the season of 1861-62, A. D., *paras.* 174, &c.

"The mound to the east is a large stupa. Into this I sank a well. The digging was rather difficult, as the labourers had to cut through layers of brickwork; between the bricks, which were very large, mud had been used instead of mortar. After digging some fifteen feet from the top, a small square aperture reaching to a level with the ground was found. I continued the excavations some twelve to fifteen feet lower, but was then compelled to desist as the rains had commenced, and there was some three to four feet of water in the hole. To have drawn off the water would have been of no use, as the daily rains would have again filled it up. In digging round about this mound, and in the mound itself between the interstices of the brickwork, a number of small baked earthen biscuit-like things were found, of which I forward a number; I have been unable to get any body to decipher what is printed on them."

"Close to the mound was found a small bronze or brass image of Budh, I believe, which I forward also. At the ruins to the north not much work was done. The debris from one part of a circular stupa was removed, and the remains of walls some three feet in height with the floors of the rooms some five feet *underground* were discovered. These rooms are similar to those found at Saronáth near Benares, and appear to be portions of a monastery. As in the commencement of July I was removed from the 'Azíngarh District, I was

* The second hemistich has in the second foot three long syllables for an *ionichus a minori* (○ ○ —). Thus we have *haméshabá mafá'ilun* ○ — ○ —, *dá var rá mafá'ilun* — —, *ya síkkaé mafá'ilun* ○ — ○ —, *láhúr fa'lán* — —.

unable to continue the excavations ; but I have no doubt that if the work is carefully and thoroughly done, it would result in some valuable archeological discovery being made.”—

The bricks are round and flat ; their diameter is about one and a half inches, and their thickness, about one-third of an inch. The rim is raised. They have the same Prakrit inscription throughout, and contain, it is supposed, formulæ of belief.

4. From Dr. Mohindra Lal Sirkar, a copy of ‘ The Calcutta Journal of Medicine, for May, June, 1869.’

5. From Nursing Rao, Esq., Vizagapatam, a copy of ‘ Meteorological Results from the Observatory at Vizagapatam, for the month of August, 1869.’

6. From the Government of India, A copy of ‘ Account of a singular accident which occurred at the Gun Foundry, Cossipur, during a thunder-storm on the 18th of August, 1869,’ when nineteen men were struck to the ground apparently by a violent concussion of the atmosphere occasioned by the close discharge of electric fluid. The following extract regarding this accident is taken from a letter by Col. H. Carleton, C. B., R. A., which accompanied the account.

“ The men were engaged in casting a large roller, and about two tons of the metal had been drawn off into the large ladle and were being brought round by the crane to the casting pit by eight men, four at each end holding the guides which, of course, are of iron. Six men were attending the crane which is constructed of both wood and iron, and is connected by iron stays with the iron roof of the building. There were three men with a small ladle of metal quite disconnected with those above-mentioned, and who were *all* connected, and two other men were moulding on the ground and disconnected. The overseer who felt no sensation, was astonished at seeing the workmen fall, and what is more remarkable, one man connected by both hands with those at the ladle who suffered so, but through the medium only of the molten metal, by means of a skimmer which is used to prevent the dross from following the metal, felt no sensation at all. The men at the crane were projected from it, fortunately, several feet, as the winches of course flew round at once, but struck no one, and the overseer had time to rush forward and key it just as the ladle touched the ground.”

“ It is most providential that the work was not a few seconds further

advanced; for had the tilting of the ladle commenced, it must have fallen on its side, and in an instant the helpless creatures on the ground would have been in the midst of the metal. Nor could succour have reached them from without; for it would have been impossible to drag them out without stepping into it."

"My principal object, however, in sending this report is to draw your attention to the position of the Foundry chimneys, which are all armed with lightning rods, and to show how little protection they may afford; for it would have been thought that with these five conductors in such close proximity to the moulding shed, it were almost impossible for the latter to be struck. The course of the electric fluid appears to me to have been from the corrugated iron roof down the large crane which was being worked, and which is connected with the roof by several iron stays; it must then have followed the course of the floor, however, to have affected the men in the south-east angle of the room, and made its exit in the direction of the south-east door-way near the small cupola."

"I have no doubt that the same cause to which the accident may be mainly attributed, was also that of the saving of life, *viz.* the large quantities of metal lying about both inside and outside, and principally the metal roof, which dissipated the electric charge rapidly in every direction; but it is wonderful that the shock should have been received at all by this building in preference to the gun furnace chimney so close to it, and which cannot be less than eighty feet high and has a conductor."

"As the efficacy of lightning rods has been a good deal disputed by scientific men, every *fact* which can be brought to bear on the subject is valuable, and it might be assumed that it is to their peculiar construction, so little raised above the surface of the soil, that powder magazines owe their immunity from danger."

7. From the Government of Bombay, a copy of 'Report by H. J. Stokes, Esq., First Assistant Collector, Belgaum, on the preservation of the Canarese inscriptions in that district, and the advisability of printing Mr. Walter Elliott's collection of Canarese inscriptions, now deposited with the Royal Asiatic Society in London.'

8. From the same, a copy of 'Report on the Progress of the Ambernath Expedition.'

9. From the Under-Secretary, Government of India, Home Department, a copy of 'Report by Drs. Bühler and Kielhorn, of their Proceedings in searching for Sanscrit MSS. in the Bombay Presidency.'

The following gentlemen duly proposed and seconded at the last meeting were balloted for and elected Ordinary Members—

J. G. Delmerick, Esq.

A. D. B. Gomes, Esq.

R. Gray, Esq., M. B.

A. Thomson, Esq.

A. Allardyce, Esq.

The following gentlemen were named for ballot as Ordinary Members at the next meeting—

R. A. Barker, Esq., M. D. Civil Surgeon, Cachar, proposed by M. H. Ormsby, Esq., L.L. D., seconded by C. A. Hacket, Esq.

Lieut. W. J. A. Wallace, proposed by Col. H. Hyde, seconded by Dr. T. Oldham.

The Council reported that on the recommendation of the Finance Committee, they have increased the pay of the Cashier and Accountant from Rs. 25, to Rs. 32-8-0 *per mensem*. Confirmed.

The following papers were read—

I.—*A Covenant of 'Alí, fourth Caliph of Bagdad, granting certain immunities and privileges to the Armenian Nation, by J. AVDALL, Esq., M. A. S. (Abstract.)*

"This Covenant was written in Kufic characters by Háshim, at the command of 'Alí, the Lion of God, son of Abú Tálíb, the exalted.

The Caliph 'Alí, who was the cousin and son-in-law of the prophet, bestows by this covenant certain immunities and privileges on the Armenians living in his dominions and professing allegiance to his government. These are a free and undisturbed exercise of the Christian religion, protection from oppression and persecution, exemption from the payment of new and exorbitant taxes, freedom from usurpation and alienation of their ancestral and hereditary property, a reciprocity of kindly and friendly feelings between the Armenians and Muhammadans in their social intercourse, and freedom from restraint in building churches and monasteries.

"This covenant, says 'Alí, is irrevocable and everlasting to the end of the world."

II.—*Notes on a Trip to the Nicobar and Andaman Islands, by*
V. BALL, Esq., B. A. *Part I. THE NICOBARS. (Abstract.)*

The paper consists in journal form of the author's observations on the people, fauna, flora &c., of the Nicobars, during a stay at the new settlement of eight days. In several appendices, the Geology, Zoology, and Language, are treated more fully.

Having described the circumstances under which the islands have been taken over by Government, the previous settlements, and the piratical tendencies of the inhabitants, the author writes regarding the choice of the position of the new settlement—

“ If this selection has been made from strategical considerations, or for the purpose of putting a check upon the misdoings of the pirates of Trinkut and Nancowrey, none could have been better. But if the object in view be the formation of a self-supporting colony, it must be characterized as most unfortunate.”

The poor character of the soil and the unsuitability of the greater portion of it for cultivation, are at once made apparent by the large areas which, under the most favorable conditions of a tropical climate, are only able to support dry unnutritious grasses. The occurrence of jungle in certain places is explained in the geological Appendix.

Both Dr. Rink and Dr. Karl Scherzer, author of the ‘ Voyage of the Novara’, condemn the selection of this place by the Danes and others as a site for colonization.

In the southern islands of the group, the geological formation resembles that of the Andamans, and the soil is consequently much better, as is testified by the jungle which stretches uninterruptedly from hill top to high water mark.

The author visited several of the native villages and saw many of the men. In one or two cases, there were some women and children in the houses, but usually they were kept out of sight. Regarding the people he writes—“ Owing to the universal habit of pawn-chewing, their teeth are intensely black, those of the lower jaw often protruding in an irregular manner almost like tusks. The tongue, too, is more or less black from the same cause, and in the mouths of some, there appear to be horny lumps formed on the gums and underneath the tongue. They are broad-shouldered, stoutly built men.

In manner, they are absent and generally unemotional. They are excessively indolent, and since their daily wants are readily supplied, they spend the greater part of their time in sloth, doing nothing. As to their origin, there can be no doubt that they are Malays, possibly modified by a Burmese element, but they possess the characteristics both of face and manner which distinguish the former people."

Amongst the birds collected by the author, the most interesting was the mound maker, *Megapodius Nicobariensis*, Blyth, of which three specimens and two eggs were procured. An account of its habits and its measurements taken in the flesh are given in the Appendix on birds. Among the other birds obtained, several are peculiar to the Nicobars, and some have hitherto been found only in the Andamans and Nicobars.

The belief in the existence of wild buffaloes on Komorta is alluded to. The author could hear nothing definite from the natives on the subject, but anticipates that the fact, if it be one, cannot now long remain doubtful.

A visit to the Island of Trinkut is described where the party met with some Kling traders bartering with the natives for cocoanuts.

The Klings said that but for the settlement they would not dare thus to come on shore; formerly, so far from going on shore, they were obliged to observe the precaution of preventing more than one canoe coming alongside their vessels lest the natives should swarm up the sides and overpower them.

The paper includes some general remarks on the people, chiefly gathered from the various published works on the Nicobars.

There are no chiefs, the old men are respected but do not exercise any particular influence in consequence of their age.

Certain of them called Minlovens perform the duties of priests, physicians and wizards. Their whole energy is concentrated on the exorcising of evil spirits. Their office is not a sinecure, as it is said that if a Minloven is unsuccessful in his cases, and several patients die while under treatment, the people agree to kill him, and he is treacherously murdered.

The principle of their religion as of that of many of the aboriginal races of India consists in the propitiation of evil spirits. According to the Missionaries they seem unable to form a conception of a Supreme beneficent Being.

Two traditions as to their origin according to Barbe, are current amongst them, these are quoted in the paper.

The author concludes his paper thus:—

“The recent opening of a direct line of communication with Komorta, has rendered a visit to the Nicobars a matter of no great difficulty or inconvenience; but in July when I went, the journey there and back involved six distinct transshipments. To any one for whom the subjects touched upon in the preceding pages possess an interest I can, with a lively recollection of the pleasure which I myself derived, warmly commend a trip to the Nicobars.”

The Appendices treat of certain subjects more fully than was possible in the Journal.

Appendix A. Geology.

The rocks of Komorta, Nancowrey, and Trinkut are magnesian claystones with occasional beds of conglomerates; igneous rocks too are present.

The Coal which has been found in the southern Islands, is evidently of similar character to that found in the Andamaus which occurs there in nests and strings never forming a regular bed.

Traces of copper have been observed in the Gabbro rocks of Nancowrey.

Amber is said to occur, “but I have in vain sought for any authentic evidence of its having been found or seen with the natives.”

Appendix B.

1. *Mammals*. Very scarce, none were seen or collected by the author. 2. *Birds*. 22 species, (out of a total of about 45 which are all that have as yet been found in the Nicobars,) were either collected or observed. 3. *Reptiles*. None collected. Crocodiles though not mentioned in Mr. Blyth's list are known to occur. 4. *Fish*. A small collection of fish was made in Nancowrey haven. They have been examined and partly identified by Dr. Anderson. 5. *Mollusca*. The Mollusca are described in a note by Mr. G. Nevill.

Appendix C.

Language. This consists of a selection from various vocabularies of the Nicobar language which have been published from time to time, together with some comments thereon.

Appendix D.

Authorities. A list of the principal books and papers having reference to the Nicobars.

III.—*Note on some Agate Beads from North-Western India,*

by W. THEOBOLD, Esq., Jr.

The beads which are represented in the accompanying plate (*Plate VI.*) were obtained by me many years ago in the Benares district, and have lain by unnoticed till a short time since. Finding, however, during a late visit home, that no similar specimens exist, either in the rich stores of the British Museum or among the collections at South Kensington, and that no one to whom I showed them, had seen similar ones or knew anything of their history, I deem them sufficiently curious to bring before the notice of the Society. I procured them by purchase from mendicants and others who, in Hindustan, are in the habit of wearing beads of agate, glass, or other substances, and among a variety of other beads as a necklace, one or two or perhaps more of these would occur. The natives themselves do not seem to know much of their origin, beyond what is implied by the vague term *Sulaimání*, which they apply to all antique looking beads of agate or onyx, of which the brown onyx ones are best known and most valued. These brown ones, I may add, are called (as I am told) “3 cow-beads” in Abyssinia, where that is their current value.

The beads I am now describing are, however, of quite a distinct type from any of the ordinary ‘*Sulaimání*,’ and are recognized at a glance by being ornamented by a pattern seemingly traced on the surface, but really engraved and subsequently filled in with some pigment which adheres most intimately to the stone. In Multán or its neighbourhood, I believe, a recent imitation is still made by painting the required design on the surface with some pigment, having litharge as its base; but an examination of these antique bead stones shews, that whatever the material of the pigment may be, the pattern was first laboriously and often artistically sunk into the surface of the stone, so that a considerable amount of wear and abrasion has not always obliterated it. This is not obvious on all, but may be seen by closely examining some part of the impressed pattern, where a chip has been removed or where abrasion of the surface through wear has taken place. Many varieties will doubtless turn up when attention has been

connected across the centre by a strong line, and in either semicircle thus formed, there are two long dots.

Of the number here figured, Nos. 15., 14 and No. 8, two others similar in form and pattern to No. 11 (not figured), are all imitations formed in dark glass with white opaque glass markings.—

The others are all of true agate.

"I trust some member of the Society will be able to throw a little light on the origin of these beads, which I presume are Bactrian,* and I will here merely add that among the articles found in one of the "Cromlechs" in the Nilghiris, "an engraved bead" was recorded, which seems to have been lost or mislaid, as I failed to discover any traces of it in the Ootacamund Museum, where it was deposited, and I greatly suspect it was similar to those here described.—

Mr. Blochmann in continuance of his observations on Major Stubbs' coin of Jahángir (p. 245), laid the following note on the table.

In turning over Marsden's description of Jahángir's coins (pp. 603 to 637), I found, to my astonishment, that the inscription of nearly every coin is metrical, and that also among the coins of Jahángir's successors, there are some, the inscriptions of which have metre and rhyme. This is of great assistance in reading them; but Marsden does not appear to have observed this, and has proposed readings which, upon closer examination, are found to be at variance with his plates.

I shall now examine a few of Marsden's readings from a *metrical* point of view.

1. *Marsden*, p. 607. Marsden reads—

قضا برسکه زر کرد تصویر شبیه حضرت شاه جهانگیر

But we have to read *shabih*, for his *shibh*, because the inscription is a verse in the *Hazaj i mahzúf*—shābīh e haz ٧ — — —, rāté shāhé ٧ — — —, jahángir ٧ — —.

* The word *Sulaimání* occurs frequently in the names of places in Badakhshán and the countries round about the *Takht i Sulaimán* mountain. *Sulaimán* is also a favorite name with Badakhshis.

Sulaimán means referring to *Sulaimán*, or *Solomon*, who figures in legends as the great wizard of the East. He is invoked as the great *Ustád* by saintly persons claiming miraculous powers.

It may be of interest to remark here that Prinsep in his "Indian Antiquities" (Mr. Thomas' edition, Vol. I, pp. 82 to 85) has given, on Plate IV, No. 13, a drawing of a *Sulaimání* bead, "black and white enamelled," exactly corresponding to Mr. Theobald's pattern No. 4. Prinsep's bead was found by

The reading of Area II. (p. 607), as given in Marsden, is correct, its metre is the *Mutaqárib i sálim*.

Hence also on p. 605, we may write *shabíh* for Marsden's *shibh*, especially as *shibh*, in the sense of *shabíh*, is rare. The above inscription is also interesting from a grammatical point of view, because the metre proves that *hazrat* takes the *Izáfat*.

2. *Marsden*, p. 619. One of Jahángir's zodiacal coins (*cancer*). Marsden sees neither metre, nor rhyme, and reads

داد زر را زیور جهانگیر شاه اکبر شهنشاه احمد آباد ۱۰۲۷

But from his plates, it is clear that we should read

زر احمد آباد را داد زیور جهانگیر شاه شهنشاه اکبر

which is a *Mutaqárib* verse, *záré ah* U — —, *mādhíbá* U — —, *dāradá* U — —, *dā zewar* U — —, &c. Marsden adds, "The title of *shahinsháh* 'rex regum,' given to the Emperor's father, had not before occurred." This is fully explained by the metre; for the words *Akbar Sháh*, which occur on other coins, will not suit the metre *Mutaqárib*, because they are a *molossus* — — —.

3. *Marsden*, pp. 622, 624, 625, 633. All these inscriptions are in the metre *Khafif*, with two long syllables in the last foot, viz., — U — — | U — U — | — —. On p. 624, Marsden translates wrong "Moneta (civitatis) *Agrah* dat auro decorem ex (mandato) Jahangir Shah, &c. *Az Jahángir*, however, does not mean *ex mandato J.*, but *nomine J.*, 'by means of J.'s name.'

4. *Marsden*, p. 634. His reading is correct; the metre is *Hazaj i Maqfúr* U — — —, U — — —, U — — —.

5. *Marsden*, p. 635. A coin with Núr Jahán's name on it. Marsden and Thomas (Useful Tables, p. 49) read the first line—

بحکم شاه جهانگیر یافت صد زیور

But the inscription is a verse in the metre *Mujtass*, as on Major Stubbs' coin, and we have to put the word شاه before جهانگیر and read

بحکم شاه جهانگیر یافت صد زیور ز نام نور جهان پادشاه بیگم زر

'By order of Sháh Jahángir, (this) gold coin has received an hun-

Capt. Cantley together with several Hindu coins, &c., in the ancient ruins of Behat, near Sahárunpúr. As Prinsep shews that the coins refer to the first centuries of the Christian Era (p. 84), the bead would appear to enjoy a high antiquity. A similar bead was found in a Cromlech at Coorg. (Vide Dr. Oldham's paper in the Proceedings of the Society for September 1869.) THE SECRETARY.

dred ornaments through (*i. e.*, by having on it) the name of Núr Jahán, the Queen Begum." Marsden, following Wilkins, translates *pádisháh begum* by *imperatoris consors*, the Emperor's Begum; but *pádisháh begum*, according to a rule observed in all Arian languages, is a *begum* who is a *pádisháh*, not for example, a *Nawáb Begum*, a *begum* who only has the title of Nawáb; hence we should translate *imperatrix*, *Queen Begum*.

6. *Marsden*, p. 645, l. 1. A coin of Sháh Jahán. Marsden reads—

سکه شاه جهان آباد رایج در جهان جاودان باد اسام ثانی صاحب قران

The second hemistich has neither sense, nor metre, nor orthography; for there is no form *اسام* which means *nomina*. Marsden's plate shews that we have to read the second hemistich

جاودان باد بنام نامی صاحب قران

and his translation, (*super*) *monetam (urbis) Shahjahanabad per mundum diffusam, aeterni sint nomina secundi domini conjunctionis*, ought to be corrected to *moneta (urbis) Shahjahanabad in aeternum sit diffusa per mundum, nomine augusto domini conjunctionis*, Sháh-jahán's title being *Çáhib qirán*, or Dominus conjunctionis.

The metre of the inscription is *Ramal*.

7. *Marsden*, p. 648. A silver coin of Aurangzeb. For Marsden's first line

سکه در جهان زد چو بدر منیر

we have to either to read with Thomas (*U. T.*, p. 46), or put the fourth word second,

سکه زد در جهان چو بدر منیر

which is a hemistich in the *Khafif* metre.

So also in *Marsden*, p. 652, l. 7 from below.

8. *Marsden*, p. 651. Marsden says that the legend of this coin (a quarter rupee) is imperfect. The metre helps us to conjecture what the reading must be—

شاه اورنگ زیب عالمگیر سکه زد در جهان چو بدر منیر

—which is, as usual, a verse in *Khafif*.

Sháh Aurangzeb Alamgir

Struck coins in the world which are as (bright as) the full moon.

9. *Marsden*, p. 655, a gold coin of Muhammad A'zam Sháh. Marsden reads—

سکه دولت و جلال پادشاه ممالك اعظم شاه

The last four words are a hemistich in *Khafif*, and *sháh* evidently rhymes with *jáh*. But for Marsden's *daulat*, his plate has clearly *ba daulat*; hence, assisted by the metre we conjecture that the correct reading is

سكه [زد در جهان] بدولت و جاه پادشاه ممالك اعظم شاه

"The Pádishah of the country, A'zam.Sháli, strikes coins in power and dignity."

10. *Marsden*, pp. 658, 659. Two coins of Jahándár Sháh. The correct reading is—

در آفاق زد سكه بر مهر و ماه ابرو الفتح غازي جهاندار شاه

—a verse in common Mutaqárib. *Vide* Thomas, *Useful Tables*, p. 47.

11. *Marsden*, p. 660. It is impossible from Marsden's plate to fix the correct reading, though there is no doubt that his reading is wrong. If the inscription is a verse, *zafar* must rhyme with *siyar*. But it looks as if the coin contained the word 'Azímábád (Patna), not عظيم الشان 'Azímushshán, the name of Farrukh Siyar's father.

12. *Marsden*, p. 661. A silver coin of Farrukh Siyar. Marsden reads (*vide* *Useful Tables*, p. 47.)—

از فضل حق سكه زد بر سيم وزر فرخ سیر پادشاه بحرو بر

But as the inscription is a verse in short *Ramál*, (— ٥ — —, — ٥ — —) we have to transpose,

سكه زد از فضل حق بر سيم وزر پادشاه بحرو بر فرخ سیر

13. *Marsden*, p. 672. A gold coin of 'Alangír II. Marsden has omitted to give a facsimile of this coin; but his reading is palpably wrong; *vide* his correct reading on p. 675. Similarly four inscriptions enumerated in U. T. pp. 48, 49, as remarked by Mr. Thomas in the footnote.

It looks as if Akbar's coins are the first Indian coins that contain metrical inscriptions. I have not seen coins of Bábar and Humáyún with verses on them. For his large gold coins, or rather medals, Akbar ordered Shaikh Faizí, his court poet, to compose the quatrains which are given on p. 28 of my *Áin* translation; but the current coins of his reign contain no metrical readings. Jahángír, as we saw, had even verses put upon his rupees, and his coinage is thus distinguished from that of the preceding Moghul (Chagatái) emperors.

The coinage of the Çafawís of Persia also contains occasionally, as

far as I can judge from Marsden's plates, metrical inscriptions. His readings, however, are nearly all wrong. A few examples will suffice.

14. *Marsden*, p. 489. A silver coin of Sháh 'Abbás II(?). The first hemistich in Marsden has the metre *maf'û'ilun* (3 times), *fu'ûlun*. He reads—

بگیتی آنکه اکنون سکه زد صاحب قرانی
ز توفیق خدا کلب علی عباس ز نام ثانی

Marsden's facsimile does not clearly shew the words ز نام ثانی.

The metre of the first Hemistich, though not displeasing to the ear, is not Persian, and is not to be found in any treatise on Prosody; hence Marsden's first line cannot be correct. His second line has neither metre, nor sense, nor grammar: it looks as if Marsden's plate had *rabbânî*, for which he read ز نام ثانی. Guided by a phrase below (No. 17), I propose to read Marsden's facsimile—

ز توفیق خدا کلب علی عباس ربانی بگیتی آنکه اکنون سکه زد صاحب قرانی

"By the grace of God, 'Alî's (unworthy) dog, 'Abbas the pious is the man who at present stamps the coin of Lordship in the world." Thus we have at least grammar and metre (the dignified *Hazaj i sâlim*, four times O — — —); but we sacrifice the rhyme, and use the word *rabbânî* in a peculiar sense.

If *rabbânî* should turn out to be the correct reading, the coin would belong to Sháh 'Abbás I., not Abbás II.

15. *Marsden*, p. 463. The first hemistich has no metre; the second is in *Ramal*.

16. *Marsden*, p. 465. For Marsden's رب المشرفین *rabbulmusharrafîn*, read رب المشرقین *rabbul mashriqain*, the Lord of East and West, which must rhyme with حسین *Husain*.

17. *Marsden*, p. 469. A silver coin of Sháh Tahmâsp II.

For Marsden reading, substitute

بگیتی سکه زد از توفیق حق طهماسب ثانی

—a short *Hazaj* (Masnawî) metre. Translate—

"Tahmâsp II., by the grace of God,

Struck the coin of Lordship in the world."

Qâhibqirânî is an abstr. noun.

18. *Marsden*, p. 472. For Marsden's سلطان ترا read سلطانیت, which Marsden's plate clearly shews. The metre is *Ramal*.

19. *Marsden*, pp. 478 and 480. Both inscriptions are correct, the former is in short *Ramal*, the latter is *Khafîf*.

20. *Marsden*, p. 481. A gold coin of Ismá'il. The first line in Marsden has the metre *Muszári' i malkúf i maq,ár*—
(— — ٥, — ٥ — ٥, ٥ — — ٥, — ٥ —); but the second line is wrong, for it has no metre.

In several of the above examples, Marsden's plates confirm my conjectures; in others, as in No. 15, better specimens of coins are required to prove or disprove the correctness of my emendations. To apply the rigid rules of Persian Prosody to inscriptions on coins, may be novel and unexpected; but my preceding remarks will shew how necessary it is, even for numismatians, to take care of the *Ars poetica*, when describing the coins of the Moghul Dynasty of India and the Qaíawís of Persia."

The Meeting then broke up.

LIBRARY.

The following additions have been made to the Library since the last meeting.

. Names of Donors in Capitals.

Presentations.

The Journal of the Royal Geographical Society, Vol. 38.—THE ROYAL GEOGRAPHICAL SOCIETY OF LONDON.

Bulletin de la Société de Géographie, Juin et Juillet, 1868. THE GEOGRAPHICAL SOCIETY OF PARIS.

Journal of the Geological Society of Ireland, Vol. II., part I.—THE ROYAL GEOLOGICAL SOCIETY, DUBLIN.

Thomason Civil Engineering College, Roorkee, Annual Examination, 1869.—THE PRINCIPAL, THOMASON COLLEGE.

Quarterly Journal of the Geological Society, Vol. XXV., parts 1 and 2.—THE GEOLOGICAL SOCIETY OF LONDON.

Zeitschrift der Deutschen Morgenländischen Gesellschaft, Band XXIII. Heft I. and II.—THE EDITOR.

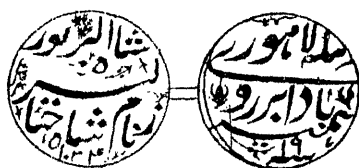
Proceedings of the Zoological Society of London, part I., 1869.—THE ZOOLOGICAL SOCIETY OF LONDON.

Journal Asiatique, No. 50, 1869.—THE ASIATIC SOCIETY OF PARIS.

Proceedings of the Royal Society, No. 113.—THE ROYAL SOCIETY OF LONDON.

Mas'údí, les Prairies d'Ore, texte Arabe et traduction, par G. B. de Meynard. Tome V.—THE AUTHOR.

Bijdragen tot de Taal-land-en Volken Kunde van Nederlandsch



Indie, 3rd Series, 3rd Vol., fasc. 3-4.—KONINKLIJK INSTITUUT VOOR DE TAAL-LAND-EN VOLKEN KUNDE VAN NEDERLANDSCH INDIE.

Die Zoophyten und Echinodermen des Adriatischen Meeres, von Prof. Heller.—THE AUTHOR.

Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien, Band XVIII.—THE IMPERIAL ACADEMY OF ZOOLOGY AND BOTANY, VIENNA.

On Some Elementary Principles in Animal Mechanics, by the Rev. S. Houghton, M. D.—THE AUTHOR.

On the Origin of a Cyclone by H. F. Blanford, F. G. S.—THE AUTHOR.

Notes on a visit to Somnath, Girnar, and other places in Kathiawar by J. Burgess.—THE AUTHOR.

Rámáyana, Vol. I., No. 8. Edited by Hema Chandra Bhattachárya.—THE EDITOR.

The Flora Sylvetica, part I., by Major R. H. Beddome.—THE GOVERNMENT OF INDIA.

Icones Plantarum Indiæ Orientalis, part III., by Major R. H. Beddome.—THE SAME.

Annual Report of the Insane Asylums in Bengal for 1868.—THE GOVERNMENT OF BENGAL.

Die Vegetations Verhältnisse von Croatien, von Dr. A. Neilreich.—THE AUTHOR.

Purchase.

Reisen im Indischen Archipel, Singapore, Batavia, Manilla, und Japan, von Dr. A. Bastian, Band V.

Sanscrit Prosody, by C. P. Brown.

Revue des Deux Mondes, 1st August, 1869.

Revue Archéologique, Juillet, 1869.

The Ibis, for July, 1869.

The Annals and Magazine of Natural History, No. XX. 1869.

The L. E. and Dublin Philosophical Magazine, No. 253, 1869.

Grimm's Deutsches Wörterbuch, 4th Vol., 2nd Fasc.

Transactions of the Zoological Society of London, Vol. VI., Part 8.

Journal des Savans, Juillet, 1869.

Comptes Rendus, Nos. 1-4, 1869.

Exchange.

The Athenæum, July, 1869.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL

FOR DECEMBER, 1869.

The monthly meeting of the Society was held on Wednesday the 1st instant, at 9 p. m.

E. C. Bayley, Esq., C. S., in the chair.

The minutes of the last meeting* were read and confirmed.

The following presentations were announced—

1. From Bábu Udayachánda Datta, Civil Surgeon, Manbhúm—a copy of a grammar of the Sanscrit Language, by C. Wilkins, LL. D., F. R. S., 2nd edition, London, 1808.

2. From Professor S. T. Aufrecht,—a copy of a Catalogue of Sanskrit MSS. in the Library of the Cambridge University.

3. From J. E. Bruce, Esq.,—three specimens of *Eurynorhynchus pygmaeus*, Linn., the small Spoon-bill, (in spirit), from Chittagong.

4. From Dr. Mohendralála Sarakára,—a copy of Calcutta Journal of Medicine, for November, 1869.

5. From Bábu Rájendralála Mitra,—seven maps of the Districts of Bengal, and two of Asia and Europe in Bengali.

6. From Bábu Kisorichanda Mitra,—a copy of the “Life of Mutty-lál Seal.”

The following gentlemen duly proposed and seconded at the last meeting were balloted for and elected ordinary members,—

R. A. Barker, Esq., M. D.,

Lieut. W. J. A. Wallace.

* For October,—no meeting having been held in November, as there was no quorum.

The following are candidates for ballot at the next meeting,—

Allan C. Hume, Esq., Commissioner of Customs, Agra,—proposed by Dr. J. Anderson, seconded by Dr. J. Ewart.

J. Wood Mason, Esq.,—proposed by Dr. T. Oldham, seconded by Dr. F. Stoliczka.

Captain Alexander G. Ross, Staff Officer, Panjab Frontier Force; Abbotábád,—proposed by A. Cadell, Esq., seconded by Lient. J. C. Ross, R. E.

The following gentlemen have intimated their desire to withdraw from the Society—

Dr. C. R. Francis and D. R. Onslow, Esq.; —the elections of W. Chisholm, Esq., and of R. H. Renny, Esq., have been cancelled at those gentlemen's own request.

The Council reported that they have sanctioned the appointment of a Maulaví, to check the Catalogue of Arabic and Persian MSS., for three months, at 30 Rs. per month; also that of a Pandit for the Sanscrit MSS., for some time, at the same monthly salary.

A letter from the Government of India forwarding—Copy of the Madras Government Resolution on the translation by the Rev. T. Foulkes of Sasanas—was laid on the table.

The following communications were brought before the meeting—

1. Note on an Extraordinary Flood in Upper Assam, by S. E. Peal, Esq. [*from a letter, dated Sapakattie, Sibsagar, September 21st, 1869*].

We have lately had most extraordinary floods in some parts of Upper Assam; especially in the basin of the Desang, and at a time that the neighbouring Dikho was all but dry.

On the 17th August, I started in a "Rob Roy" canoe from Sonarie on the Towkak, and I went down stream into the Desang, landing in six and a half hours at "Borboorwah Allee" Ghat, about 45 to 50 miles down. It was two or three days after the highest flood had fallen a little; and I noted that in the entire distance there was no land to be seen from the river that had not been under water and had some 2 inch of inundation mud on the tōp,—even the highest pieces.

When passing through Bokota Mouza the river seemed above the

Potar level, and in one place I found it was pouring over the bank with a fall of about a foot into rice land; all the rice in the Potar had been killed by the water flooding it some days before, and remaining on it.

On passing up the Deroi river, a tributary to the north side, I found the flood on that side quite as bad; and up to the Deroi factory, indeed, I only once caught sight of land at all; I subsequently went from Deroi factory up to the Sooloogoorie Allee Ghat by canoe with my brother, and we passed only three places out of water the whole way.

We looked for a place to land and have some breakfast, but could not even see a patch of mud, let alone land, and had to get into the branches of a large tree at last.

I may say also that rice for Deroi factory was being taken in large boats from Desang *across country* to Deroi, some miles.

The peculiarity of the case is, that these floods occurred in the Desang, at a time that the Dikho was nearly dry. Indeed to the people in Sibsagur it seemed incredible. Many Tea gardens will, however, suffer severely, I expect, as well as the ryots.

We have had it very hot now and then, which may account to some extent for the floods. On July 20th, a metal mounted thermometer placed in the sun and screened, registered at 1. 20 p. m. 174° Fah., the highest I have ever seen, but the great heat was only for some three days, and in-doors not excessive -94° at 1 p. m.

2. *A new species of Pycnonotus*, by Dr. J. ANDERSON, F. L. S., and F. Z. S., Curator of the Indian Museum, Calcutta.

PYCNONOTUS XANTHORRHŌUS, n. sp.

Supra brunneus; pileo et regione oculari nigris; plumis auricularibus pallide brunneis; alis brunneis; flexura alarum rubro-flava; tectricibus sub-alaribus pallide ferrugineis; cauda nigro-brunnea; gula et abdomine medio albidis; pectore et abdominis lateribus brunneis; crisso flavo; rostro nigro; pedibus nigris.

Long. tota 7.70; alæ 3.65; caudæ 3.60, rostri a rictu, .77; a fronti .55; tarsi .70.

Hab. Manwyne, Yunán, ad alt. circa 1.700 pedes angl.

This species is nearly allied to *O. jocosa* in the general style of its

colouring, but differs from it in having a crest and its ear-coverts being pale brown. It has the square tail and the well developed rectal bristles of a *Pycnonotus*.

Held in certain lights, the under surface of the tail shews indistinct dark brown bars.

I observed this species only at Manwyne, at the foot of the Sanda valley on the eastern side of the Kakhyen hills which separate Upper Burma from the Shan States, to the east of Bhamó.

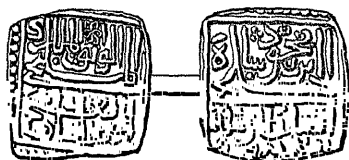
3. *A vocabulary on the Cashmere language*; by W. J. ELMSLIE, M. D.

4. *Translations from Ohand*; by F. S. GROWSE, Esq., M. A., B. C. S.

Both papers, the President stated, contain purely philological details; they will shortly be published in the forthcoming number of the Journal.

5. *Note on a Málwah Goldmuhur*; by H. BLOCHMANN, Esq., M. A.

The gold coin which I now exhibit was given to me by Dr. Hunter. I am not aware that the coin has been described. It is a square (*chahárgoshah*) muhur, and its weight, as determined by Col. H. Hyde, is 169.48 grs.



The inscription I read as follows—

Area I (left in the figure; the inscription commences in the upper left hand corner)—*الملك الواثق الملكجي ابو الفتح غياث شاه*

Area II.—*بن محمود شاه الخالجي السلطان خلد الله ملكه*

٨٩٨

The king who trusts (in God) and has recourse (to Him,) Abul Fakh Ghias Shah,

Son of Mahmud Shah Khilji, the Sulṭán,—May God perpetuate his reign. A. H., 898. [A. D. 1492-93.]

Málwah was independent for 133 years, from A. H. 804 to 937, when it was annexed to Gujrát. The line of the kings of Málwah is as follows—

1. Diláwar of Ghor, 804 to 808.
2. Hoshang, son of Diláwar, 808 to 838 (Zi Qa'dah).
3. Muhammad Sháh, son of Hoshang,* 838 to 839 (Shawwál.)
4. Mahmúd ibn i Malik Mughís i Khiljí (an Amír of Sultán Hoshang), 839 to† 873 (Zi Qa'dah).
5. Ghiásuddín, his son, 873† to 906 (9th Ramazán).
6. Náçiruddín 'Abdul Qádir,‡ his son, 906 to 916 (2nd Çafar).
7. Mahmúd his son, 916 to 937 (15th Sha'bán).

The goldmuhur therefore belongs to the fifth king. If the coin did not contain the year, and the word *Khiljî*, one might take it for a *Kulbargah* muhur; for among the Bahmans also there is a king Ghiásuddín, son of Mahmúd, who reigned for about two months.

The inscription on the coin presents an interesting feature. At the last meeting whilst exhibiting a Rupee struck by Jahángir, I drew the attention of the members to the curious fact that the legends on the coins of the Moghuls and those of the later Çafawís of Persia were for the most part metrical, a circumstance which, as far as is known to me, has not been observed on Muhammadan coins struck before the end of the tenth century of the Hijrah. The inscription on this Málwah goldmuhur, which belongs to the very end of the ninth century, stands intermediate between the metrical legends on modern coins and the prose inscriptions on the coins of earlier centuries, inasmuch as the legends of the two areas, though not metrical, have a rhyme (*ulmultajî* and *Khiljî*).

Before the meeting broke up, the President Mr. E. C. Bayley, exhibited the copper-plate—an account of which was given in the Proceedings for May (p. 143) of the current year,—and gave several explanatory notes relating to the discovery of the plate and the inscription on the same, which will be published in the first number of the Journal for the next year.

* In Elphinstone's Hist. of India, (Fifth Edition, p. 768), 835?

† Elphinstone, 887? I do not know what sources Elphinstone used. The years, as given above, are taken from the Lucknow Edition of Firishtah, and agree with a historical MS. in my possession, entitled *Tabaqát us Salátn*.

‡ Elphinstone calls him *Nasiruddín*. When kings have several names, the last name is the real name; hence this king should be called 'Abdul Qádir.

LIBRARY.

The following additions have been made to the Library since the last meeting.

* * * Names of Donors in Capitals.

Presentations.

Bulletin de la Société de Géographie, Aout et Septembre, 1869.—
THE GEOGRAPHICAL SOCIETY OF PARIS.

Proceedings of the Royal Geographical Society, Vol. XIII, Nos. 3, 4.—THE ROYAL GEOGRAPHICAL SOCIETY OF LONDON.

Journal of the Agricultural and Horticultural Society of India, Vol. I, Part IV, New Series.—THE AGRIC. HORTIC. SOCIETY OF INDIA.

Pand Nāmah-i Adarrad Maraspand.—THE SOCIETY FOR MAKING RESEARCHES INTO THE ZOROASTRIAN RELIGION.

The Calcutta Journal of Medicine, Vol. II, No. 7.—THE EDITOR.

The lives of the Bengali Poets with selections from their works and Introductory brief History of Bengali Poetry, Part I; by Bābu Harimohana Mukerjee.—THE AUTHOR.

The Bālarāmayana, a drama by Rajasekhara, edited by Pandit Govindadeva Sāstri.—THE EDITOR.

The History of India, Vol. II, by Sir H. Elliott.—LADY ELLIOTT.

A Grammar of the Sanskrit Language, by C. Wilkins, LL. D. F. R. S.—BA'BU UDAYACHA'NDA DATTA.

The Ramayana, Vol. I, No. 9;—by Hema Chandra Bhattacharya.—THE EDITOR.

Catalogue of Sanskrit MSS. in the Cambridge University Library, by Professor S. T. Aufrecht.—THE AUTHOR.

The Life of Mutty-lāl Seal, by Kissory Chand Mitra.—THE AUTHOR.

Shamsher Tezdar, by Agā Ahmad 'Alī.—THE AUTHOR.

Report of the Government Astronomer on the Proceedings of the Observatory in connexion with the total Eclipse of the Sun on August 18th, 1868, as observed at Masulipatam.—THE GOVERNMENT OF INDIA, HOME DEPARTMENT.

The Madura Country; a Manual composed by order of the Madras

Government, by J. H. Nelson, M. A.—THE GOVERNMENT OF INDIA, HOME DEPARTMENT.

Report of the Cotton Department for the year 1867-68.—THE GOVERNMENT OF INDIA, HOME DEPARTMENT.

The Annals of Indian Administration, Vol. XII, Parts 1—4, Vol. XIII, Parts 1—4.—THE GOVERNMENT OF BENGAL.

Annual Report of the Administration of the Province of Oudh, for the year 1868-69.—THE SAME.

Report on the Administration of the Hyderabad assigned Districts for the year 1868-69.—THE SAME.

Report on the Administration of Coorg, for the year 1868-69.—THE SAME.

Report on the Administration of the Central Provinces, for the year 1868-69, by J. H. Morris, Esq., B. C. S.—THE SAME.

General Report on the Administration of the Bombay Presidency, for the year 1867-68.—THE SAME.

Report on the Administration of Mysore, for the year 1868-69.—THE SAME.

Report on Public Instruction in Mysore, for the year 1868-69.—THE SAME.

Report on the Progress of Education in the Province of Oudh, 1869.—THE SAME.

The Normal Winds of Bombay by C. Chambers, Esq., F. R. S.—THE GOVERNMENT OF BOMBAY.

Selections from the Records of the Bombay Government, with a map; No. 114, New Series.—THE SAME.

Records of the Geological Survey of India, Vol. II, Part IV.—THE SUPERINTENDENT GEOLOGICAL SURVEY OF INDIA.

Purchase.

Izálut ul Khifá'an Khiláfat ul Khulafí, by Sháh Walíullah.

Qazwíní's Kosmographie, Vol. I, von Dr. H. Ethé.

Maçoudí, les Prairies D'or, par C. Barbier de Meynard.

Reisen im Indischen Archipel, von Dr. A. Bastian.

Etymologische Forschungen Indo-Germanischer Sprachen, von Dr. A. F. Pott.

Tārānathas' Geschichte des Buddhismus in Indien, von A. Schiefner.

Die Bhagavad-Gita, übersetzt und erläutert, von Dr. F. Lorinser.

Rig-Veda Sanhita, Vol. I, by Max Müller.

Revue Archeologique, No. 8, August 1869.

Revue et Magasin de Zoologie, No. 7, August 1869.

Comptes Rendus, Tom. LXIX, Nos. 5, 6; 1869.

APPENDICES.

APPENDIX A.

List of papers submitted to the Society during the year 1869, with dates when they were received, and how they were disposed of.*

[* Short communications and abstracts of papers, chiefly printed in full in the Proceedings, are not included in this list, but referred to in the general Index.]

Authors.	Titles of papers.	When received.	How disposed.
Avdall, J., Esq. ...	A covenant of 'Ali fourth, Khalif of Bagdad, granting certain immunities and privileges to the Armenian nation, ...	23rd Sept., 1869.	To be printed in Journal, Pt. I.
Ball, V., Esq., B. A. ...	Notes on a trip to the Nicobar and Andaman Islands, Part I. The Nicobars, ...	8th Oct., 1869.	Under consideration.
Ditto, ditto, ...	On the ancient Copper Miners of Singhbhúm, ...	2nd June, 1869.	Printed in Proceedings for June, 1869.
Bayley, E. C., Esq., C. S. ...	Notes on an Arian inscription, ...	April, 1869.	To be printed in Journal, Pt. I, for 1870.
Beames, J., Esq., C. S. ...	The Nineteenth Book of the Gestes of Prithráj, by Chand Bardái: entitled the marriage with Padmáwath, literally translated from the old Hindi, ...	July, 1869.	Printed in Journal, Pt. I, No. 3, 1869.
Blanford, W. T., Esq. ...	Contribution to Indian Malacology, No. X., Ornithological notes, chiefly on some birds of Central, Western and Southern India, ...	13th Feb., 1869.	Ditto ditto Pt. II, No. 2, [1869.
Ditto ditto, ...		3rd March, 1869.	Ditto ditto Pt. II, No. 3,

Ditto ditto, Blochmann, H., Esq., M. A.	... ...	Contribution to Indian Malacology, No. XI., Notes on the Arabic and Persian Editions of the Bibliotheca Indica.—No. 1, Ba- daoni and the Religious Views of Emperor Akbar, ...	25th June, 1869.	To be printed in Journal, Pt. II, No. 1, for 1870.
Ditto ditto,	...	Note on the fall of a meteorite at Jullundur, in April, A. D., 1621, ...	1st April, 1869.	Printed in Journal, Pt. I, No. 3, 1869.
Ditto ditto,	...	Contribution to the Chronology of the reigns of Tímúr and his descendants up to Shályahán, No. 1, ...	2nd June, 1869.	Ditto in Proceedings, for June, 1869.
Carlleyle, A. C. L., Esq.	...	Description of two new species belonging to the Genera Varanus and Feranioides, res- pectively, from near Agra, ...	4th Augt., 1869.	Ditto ditto, for Augt., 1869.
Ditto ditto,	...	Notes, Numismatical, Palæographical and Archæological, relating to India, ...	22nd Feb., 1869.	Ditto in Journal, Pt. II, No. 3, 1869.
Clay, W. M., Esq.	...	India as described by Dionysius, the Geogra- pher, in his voyage round the World, ...	March, 1869.	Publication deferred.
Cole, R. A., Esq.	...	Extracts from a report on Cromlechs in Southern India, ...	June, 1869.	Abstract (only), printed in Proceeding, July, 1869.
Cooper, T. T., Esq.	...	Notes on Western China, ...	.....	Printed in Proceedings, August, 1869.
Fryer, Capt. G. E.	...	A contribution to our knowledge of Pelagic Mollusca, ...	20th April, 1869.	Printed in Proceedings for May, 1869.
Godwin-Austen, Capt. H. H.	...	Notes on the Geology and Physical features of the Jaintia hills, ...	10th March.	Ditto in Journal, Pt. II, No. 4, 1869.
Ditto ditto,	...	Notes from Assaloo, North Cachar, on the Great Earthquake of January 10th, 1869,	16th Dec. 1868.*	Ditto ditto, Pt. II, No. 3, 1869. [March, 1869.
			25th Feb., 1869.	Ditto in Proceedings for

* Not acknowledged last year.

Authors.	Titles of Papers.		When received.	How disposed.
Godwin Austen, Capt. H. H.	Notes on Indian Mollusca, No. 1,	...	18th Jan., 1869, with additions up to Dec., 1869.	To be printed in Journal, Pt. II, No. 1, for 1870.
Growse, F. S., Esq., M. A. C. S.	Further notes on Chand's poems,	...	17th Feb., 1869.	Printed in Journal, Pt. I, No. 1, 1869.
Ditto ditto,	Indian Proverbial Philosophy, ...	...	23rd July, 1869.	Publication deferred.
Jenkins, H. L., Esq.	Notes on the Burmese route from Assam to the Hooikoong-valley (Patkoi-Range), (with a map), ...	...	Jan., 1869.	Printed in Proceedings for Feb., 1869.
King, G., Esq., M. B.	Notes on the famine foods of Marwar, ...	...	March, 1869.	Ditto ditto for April, 1869.
Kurz, S., Esq. ...	On some new or imperfectly known Indian plants, ...	...	12th Dec., 1869.	To be read at the January meeting of 1870.
Meredith, J., Esq., M. D. ...	Notes on the topographical features of As- sam and their indications, ...	...	20th Mar., 1869.	Abstract (only), printed in Proceedings for June, 1869.
Michell, R., Esq., F. R. G. S.	A copy of a journey to Kashgar, 1858, by Capt. Volikhanof, translated from the Russian, ...	...	2nd Feb., 1869.	Publication deferred.
Newall, Lieut.-Col., D. J. F.	Notes on the temples of Razdan in the Lar Pergunnah, ...	...	June, 1869.	Printed in Journal, Pt. I, No. 4, 1869.

Nevill, Messrs. G. and H. ...	Descriptions of Marine Gastropoda from Ceylon, ...	3rd Feb., 1869.	Ditto in Journal, Pt. II, No. 3, 1869.
Oldham, T., Esq., L. L. D.	Notes on the remains found in a Cromlech at Goorg, ...	1st Sept., 1869.	Ditto in Proceedings for Sept., 1869.
Peal, S. E., Esq.	Short notes of a trip into the hills south of Sibsaugor, ...	Jan., 1869.	Abstract printed in Proceedings for March, 1869; printing of the paper in full deferred on account of the very numerous illustrations which cannot be executed at present.
Phayre, Col. Sir A., K. C. S. I. C. B.	The History of the Burmah Race, Pt. III.	2nd April, 1869.	Printed in Journal, Pt. I, No. 2, 1869.
Pratápachandra Ghosha, Bábu,	Notes of a translation of Balandshahar Inscription, ...	13th Mar., 1869.	Ditto ditto Pt. I, No. 1, 1869.
Rakáladása Háládár, Bábu, ...	Notes on a copper plate inscription in the possession of certain Kols, at Chota Nagpore, ...	July, 1869.	Ditto in Proceedings for August, 1869.
Showers, Lieut.-Col. C. L. ...	On the Meenas, a wild tribe of Central India, ...	2nd Sept., 1867, with additions up to Aug., 1869.	Ditto ditto for September, 1869.
Stoliczka, Dr. F.	Contributions towards the knowledge of Indian Arachnoidea, ...	7th April, 1869.	Printed in Journal, Pt. II, No. 4, 1869.

Authors.	Titles of Papers.	When received.	How disposed.
Surveyor General (through Bábu Gopinauth Sen), ...	Tabular statement of monthly rain fall from January, 1837 to November, 1868, monthly means of the principal meteorological elements and actual rain fall from 1856-1867; abstract of meteorological observations, taken at the Surveyor General's Office, Calcutta, from September, 1868 to October, 1869, ...	..... June, 1869.	Printed in Journal, Pt. II, No. 1-4. Printed in Proceedings for July, 1869. Ditto ditto, for Oct., 1869.
Theobald, W., Jr., Esq., ...	Notes on the stone implements of Burmah, ... Agate Beads from North- Western India, ...	Sept. 1869. 17th May, 1869.	Ditto in Journal, Pt. I, No. 2, 1869.
Ditto ditto, ...	The district of Lúdiána, ...	2nd June, 1869.	Ditto ditto, Pt. II, No. 4, 1869.
Tollbort, T. W. H., Esq., C. S. Waldie, D., Esq.	Analysis of the Khettree Meteorite with an account of its fall, ...	2nd April, 1869.	Ditto ditto, Pt. I, No. 1, 1869.
Williamson, Lieut., W. J.	A Vocabulary of the Garo and Koneh Districts, ...		

APPENDIX B.

List of Donations, (not including books, or other publications, and MSS., these being acknowledged in the monthly library lists.)

Donors.	Donations, those marked with an asterisk, were transferred to the Trustees of the Indian Museum.
Bruce, J. E., Esq. ...	*Three specimens of <i>Eurhino-rhynchus pygmaeus</i> , in spirit, from Chittagong.
Caggard, H. A. ...	*Remnants of a human skeleton found while excavating a drain in Kyd Street, Calcutta.
Cantopher, M., Esq. ...	Two copper coins of Antoninus Pius and of Galba.
Cole, Capt., R. A., through the Chief Commissioner, Mysore, ...	*Four earthen pots, six beads and a ringlet found in a Cromlech in Coorg.
Ferrar, M. L., Esq., C. S. ...	Three ancient copper coins dug out in Roy Bareilly.
Government of India, Home Department, ...	24 Bronze Medals, executed at the Calcutta Mint.
Ditto ditto, ...	A set of 20 photographs of the caves and temples of Nassick, taken by Mr. Sykes, Photographer, Bombay.
Leupolt, J. C., Esq., C. S. ...	*Some earthen medallions bearing inscription, and a bronze figure of Budha.
Mádhavá, Krishná Setha, Bábu, ...	*Specimen of a <i>Fungus</i> from Calcutta.
Oakes, Col., R. E. ...	*A box of flint implements from Jubbulpore.
Oldham, W., Esq., L.L. D. ...	Specimens of bricks, bearing inscription found at Musar, near Arrah.
Rájendra Lála Mitra, Bábu, ...	*Shells collected on the sea-shore, near Puri.
Smolly, W. M., Esq. ...	*Specimens of Corals from the Andaman Islands.
Stubbs, Major, F. W. ...	Two silver coins of Jahángir.
Yadanátha Basu, Bábu, ...	A Mahomedan copper coin.

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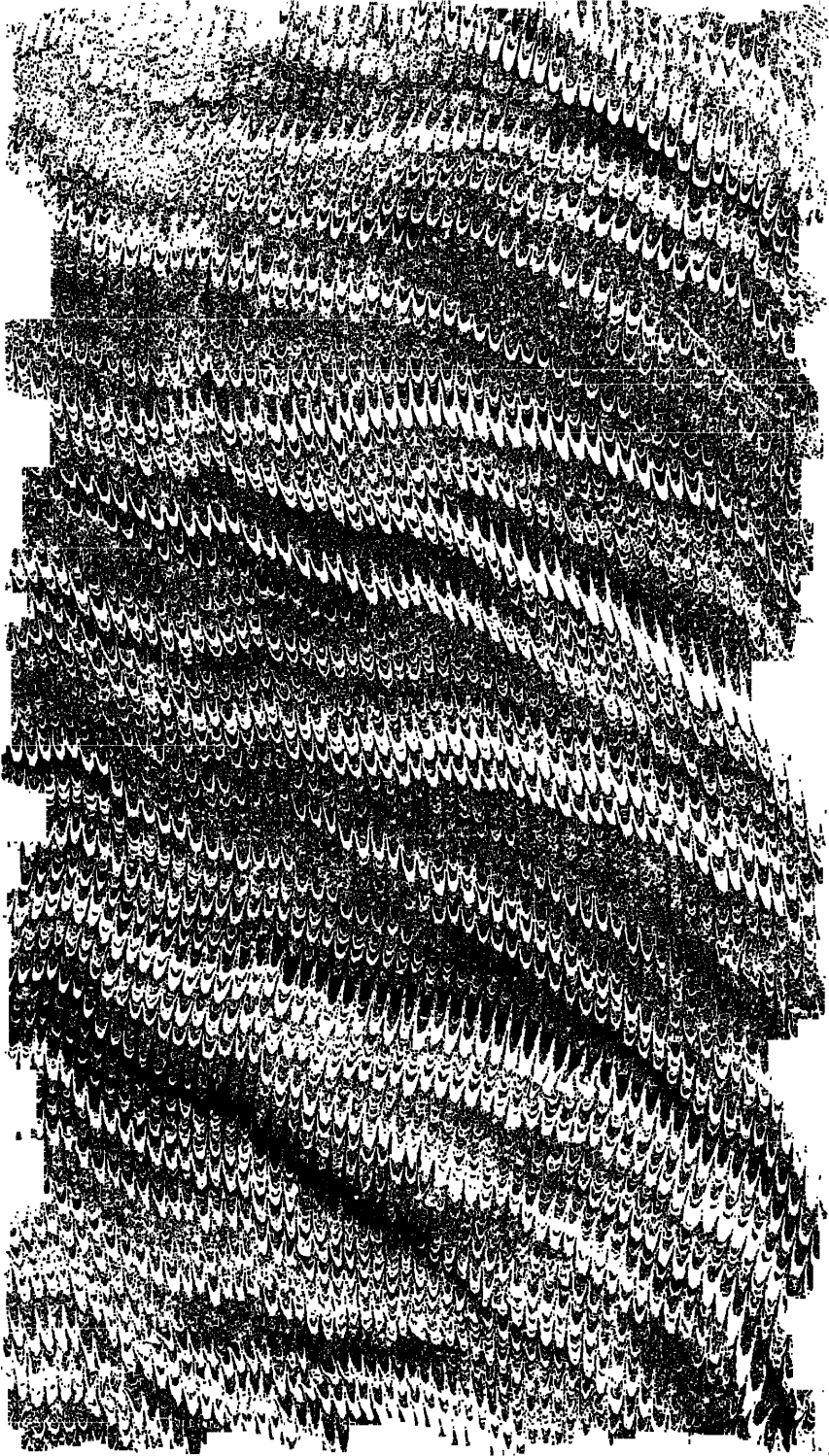
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60	34	"Sirdár Atlar"	Sirdár Attar
61	11-12	"'Owar Khoyyam"	'Omar Khayyám
63 & 67	12-13 (et seq.)	"A. C. Peal"	S. E. Peal
74 (et seq.)	17 (et seq.)	"Peel"	Peal
	pp. 76, 78, 79, &c.		
75	18	"Haberlin"	Hæberlin
88	19	"Sixth"	Fifth
90	5	"nám tu"	nám i tu
105 (et seq.)	10 (et seq.)	"A. E. Carleyl"	A. C. L. Carlleyle
	p. 133, &c.		
108	24	"Gubbay"	Gubbyoy
112	34	"Páre"	Paru
121	30	"Frayer"	Fryer
126	6	"T. W. Rawlin"	T. W. Rawlins
127	3	"Rámahmaya"	Rámamaya
128	7 & 9	"Yajurs"	Yajus
	27	"Bráhmaya"	Bráhma
129	8	"codices of two or three commen- taries"	two or three codices of the commen- taries
"	16	"between"	of between
"	18	"Dupetron"	Duperron
133	8	"the initial line"	initial lines
134	5	"there"	their
"	30	"तान्तिव"	बान्तिव
"	34	"वैदिक"	वैदिक
136	8 & 15	"धम्मशास्त्र"	धर्मशास्त्र
	19	"बोधायनधम्मशास्त्र"	बोधायनधर्मशास्त्र
143	5 & 20 & last.	"धम्मशास्त्र"	धर्मशास्त्र
162	15	"F. W. Rawlin"	T. W. Rawlins
175	33	"A. L. Clay"	W. M. Clay
177	28	"A. C. Cameron"	A. M. Cameron
215	17	"a wife"	a daughter
217	9-10	"and to a daughter of Muzaffar Hu- sain (Tuzuk p. 76)"	omit.
219	21	"Raushan Rái"	Raushan Arái.





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